

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of

STEPHEN B. AUGER

Serial No.: 08/865,419

Art Unit: 1751

Filed: May 28, 1997

Examiner: M. Einsmann

For: MINERAL STAINS FOR WOOD AND OTHER SUBSTRATES

TECHNOLOGY CENTER 1700

RECEIVED

MAY - 7 2002

SUPPLEMENTAL APPEAL BRIEF

To the Commissioner of Patents and Trademarks

Sir:

REAL PARTY IN INTEREST

The above-identified Applicant is the real party in interest in this case.

RELATED APPEALS AND INTERFERENCES

No other related Appeals and Interferences are pending.

STATUS OF CLAIMS

Claims 1-10, 20-22, and 30-36 were finally rejected over the art of record.

Claims 23, 25, 26, and 29, which were withdrawn from consideration have been cancelled. Claims 11-19, 24, 27, and 28 have also been cancelled.

A copy of the appealed claims is appended hereto in the Appendix. Applicant believes that the claims appended to this Appeal Brief are the claims of record in Applicant's file.

STATUS OF AMENDMENTS

No amendments were filed after the final rejection.

SUMMARY OF THE INVENTION

The invention (Specification pages 8-17) is a two-step process involving a non-toxic, water-based mineral solution and a low toxicity water-based oxidizing solution applied sequentially to unfinished wood products (page 8, lines 18-20).

The user first brushes, sprays, or otherwise applies a water-based solution "A" onto a wood, lets the wood dry for about 5-30 minutes, depending on temperature and humidity, then applies a second water-based solution "B" (page 8, lines 24-26). Color change begins immediately and when the B solution dries, in another approximately 5-30 minutes, the wood is permanently stained (page 8, lines 26-28). The solutions may also be applied by soaking the wood substrate in the solution, at standard temperature and pressure or at either extreme or combinations as with typical pressure treatments for lumber to ensure thorough penetration of thicker wood substrates (page 9, lines 1-2).

The A solutions contain a variety of mineral salts (such as a variant of the iron-rich compounds found in nutritional supplements) and other natural compounds that soak into the wood surface readily (page 9, lines 16-18). The B solutions contain an oxidizing agent, such as dilute peroxides similar to the hydrogen peroxide found in many medicine cabinets (page 9, lines 18-20). Preferred B solutions are somewhat more concentrated (page 9, line 20).

The oxygen source causes an oxidation reaction, bonding the minerals in solution A to or among the cellulose fibers in the wood. The chemical nature of the reaction is suggested by the fact that a color change results from the combination of solution A, solution B, and the substrate (page 9, lines 24-26). The resulting color, unlike the clear solutions and their components, is not water-soluble (page 9, lines 26-27).

The process involves saturating the fibers of a wood with a solution of minerals in a water-soluble form and then oxidizing said minerals in the wood fibers to change the color,

texture, and general appearance of the wood or other properties (page 10, lines 3-5). The coloring process renders mineral salts into a stable, insoluble form, perhaps an oxide, coordination compound, or other water-insoluble compound or complex (page 10, lines 6-8).

The metal salt formulation soaks into the wood, impregnating it with mineral ions, which are then converted by the oxygen source into an insoluble coloring compound (page 10, lines 9-10). Thus, a metal oxide may serve as a metal salt if it is solubilized with an acid, applied so as to penetrate into a substrate, and then reacted with an appropriate oxygen source to generate the desired color or other effect (page 10, lines 10-13).

The coloring agent may associate physically or chemically with the wood substrate, via absorption, mechanical admixture, entrapment, polar attraction, or covalent bonding (page 10, lines 19-21). The reaction may involve the cellulose of the substrate (page 10, lines 21-24). The substrate may or may not react with the metal salt and oxygen source, so long as the colored compound is fixed insolubly within the substrate (page 10, lines 24-26).

In some cases, the B solution is applied before the A solution in order to obtain a different effect (page 11, lines 9-10). Different mineral solutions and different oxidizing agents create markedly different effects on wood, and these finishes can be customized for specific application to a wide variety of materials (page 11, lines 10-12).

The invention relates to compositions and kits comprising the various A and B solutions prepared by combining water soluble or other mineral salts, oxidizing agents, and other substances into an aqueous solution (page 11, lines 13-15).

To form the various preparations of Solution A, a measured weight of the mineral or minerals is mixed in a volume of purified water (page 12, lines 24-25). To form the iterations of Solution B, liquid hydrogen peroxide or powdered sodium peroxide are mixed in a volume of water (page 12, lines 25-27). Alternatively, sodium hydroxide is added to a hydrogen peroxide solution and may be neutralized or buffered if desired (page 12, lines 27-28).

Mineral salts and oxides are used according to the invention to stain wood (page 14, lines

6-7). Other minerals capable of reacting with an oxygen source in contact with a substrate to color the substrate or provide other effects according to the invention may be selected from salts of elements of columns 2 through 6 of the Periodic Table of the Elements, including the transition elements, Lanthanides, and Actinides (page 14, lines 17-20).

The effect may vary with the source of water (page 15, line 21). The effect may vary with the solution in which the minerals or peroxides are dissolved or suspended (page 15, lines 25-26). The effect may vary with the concentrations of the solutions (page 16, line 4). Generally, more dilute solutions create lighter color density but in some cases they actually give the appearance of a different color (page 16, lines 4-6).

In all the examples defined in the specification (pages 18-21), Solution A is made up as a solution of mineral in water. Concentrations are given as percent (weight/volume), or the number of grams of mineral and the volume of water is given (page 17, lines 18-20). Solution B is made up of a 15% (v/v) solution hydrogen peroxide or a 0.3% sodium peroxide solution (made from 3.0 grams per liter of water) (page 17, lines 20-21).

ISSUES

Whether claims 1 and 31 are patentable under 35 U.S.C. 112, second paragraph?

Whether claim 1 is patentable under 35 U.S.C. 102(b) over Matsushita (JP 60-250,906)?

Whether claims 3-7, 9-10 and 30-36 are patentable under 35 U.S.C. 102(b) over Brown (U.S. patent 5,173,085)?

Whether claims 3-10 and 30-36 are patentable under 35 U.S.C. 102(b) over Tennigkeit (U.S. patent 4,992,077)?

Whether claims 1, 3-6, 9-10, 30, and 32-36 are patentable under 35 U.S.C. 102(b) over Light (SU 499,297)?

Whether claims 3-7, 30, 31, and 36 are patentable under 35 U.S.C. 102(b) over Yantai (Yantai University 86-104,010)?

Whether claims 2-8, 9-10, 20-22, 30-34, and 36, are patentable under 35 U.S.C. 102(b) over Dombay (U.S. patent 3,554,785)?

Whether claims 2-10, 20, 21, 30, 31, and 36 are patentable under 35 U.S.C. 102(b) over Bures (CS 145,495)?

Whether claims 2-8, 9-10, 20-22, and 30-36, are patentable under 35 U.S.C. 103(a) over Dombay (U.S. patent 3,554,785)?

Whether claims 2-10, 20-22, 30-36 are patentable under 35 U.S.C. 103(a) over Bures (CS 145,495)?

GROUPING OF CLAIMS

The claims do not stand or fall together.

ARGUMENTS

The Examiner has failed to meet the burden required by MPEP 2183. Under 2183, after concluding, with proper evidence, that the claimed limitation is met by prior art element, the examiner must show that the prior art element is equivalent and must also demonstrate why it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute applicant's described structure, material, or acts for that described in the prior art reference. This is what is required to shift the burden to applicant to show that the element shown in the prior art is not an equivalent of the structure, material or acts disclosed in the application. MPEP 2183. The Examiner in this case has not met the burden required by MPEP 2183.

Reversal of the Examiner and allowance of all the claims are respectfully requested.

Claims 1 and 31 are patentable under 35 U.S.C. 112, second paragraph.

The last five lines of claim 1 define the function of the components of the kit. Therefore,

the Examiner's statement that "it is improper to recite method steps in a kit claim" is not understood. Besides, that recitation cannot, and does not, form any basis for the Examiner's rejection of the claim being "indefinite." Contrarily, the last five lines of claim 1 render claim 1 more definite than otherwise. Thus, the rejection of claim 1 should be reversed.

Claim 31 does not reference any "base." Applicant had deleted the term "base" in a Response filed April 28, 2000. In fact, the Examiner acknowledged in a subsequent office action (paper # 31, page 2) that applicant had proposed that amendment (among others) to incorrect line numbers, and that the Examiner had entered the proposed amendments to the correct lines, which included line 8 of claim 31 which had recited the term "base". Reversal of that rejection is also respectfully requested.

The present claims are patentable under 35 U.S.C. 102(b).

For an invention to be anticipated, it must be demonstrated that each and every element of the claimed invention is present in the "four corners" of a single prior art, either expressly described therein or under the principle of inherency. Lewmar Marine Inc. v Bariant Inc., 3 USPQ2d 1766, 1767-1768 (CAFC, 1987).

Each of the present claims is patentable over the art of record.

The invention uniquely provides permanent wood staining without use of hazardous or environmentally unfriendly chemicals, which is new and unobvious. The invention has two parts, and the staining is accomplished in two steps. The first part is an aqueous solution of metal salts, which is applied to the wood and which penetrates the surface of the wood. The second solution is an aqueous oxidizer solution which penetrates the wood and fixes the metal salts in place within the wood.

The Examiner contends in paper # 36, page 2, Item 6b, that Applicant has failed to separately argue the patentability of each of the claims, other than pointing out the differences between the claims and the references. However, the final rejection of the claims merely

references the previous office action (paper # 31) as the basis for the rejections. A review of the final office action (paper # 36) and of its basis (paper # 31) clearly indicates that the Examiner has failed to meet the original burden of presenting a *prima facie* case of anticipation by the references. Neither office action points out where in the references there is a description, teaching or inherent presence of each of the claimed features of each of the appealed claims. Since the Examiner has not met its burden, it would be mere speculation, and an undue burden, on Applicant's part to point out the basis for each of the claimed features in the references of record that may have been in the mind of the Examiner but not reflected in any office action.

Attention is kindly drawn to the Federal Circuit's dictum:

The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The 'prima facie case' notion ... was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the *prima facie* case) to patentability, and give the applicant fair opportunity to meet those objections ... the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness.

In re Oetiker, 25 USPQ2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring); see In re Piasecki, 233, USPQ 785, 788 (Fed. Cir. 1984) (emphasis added).

Claim 1 is patentable under 35 U.S.C. 102(b) over Matsushita.

Claim 1 describes a kit for imparting a pre-determined color to a solid wood substrate, comprising an aqueous solution of a first compound consisting of a mineral salt and water as a first application on the solid wood substrate, and a second component comprising an aqueous solution of a peroxide as a sequential application on the solid wood substrate, the mineral salt and peroxide solutions as sequential applications in effective amounts on the substrate and colored layer on the substrate formed by the applications reacting with each other in the presence of the substrate to impart the color to the substrate.

Matsushita relates to colored woods manufactured by impregnating woods with reactive coloring solutions and with dye solutions and synthetic resins and color coatings. The present

specification clearly points out the disadvantages of prior art staining systems, such as Matsushita, and provides for a unique coloring system that allows substances to be applied to the wood that react in situ resulting in automatic coloring of the substrate because of the reaction. Claim 1 does not relate to coloring the substrate by applying a dye or a synthetic resin or coloring solutions. Matsushita thus teaches away from the claimed invention and cannot anticipate claim 1.

The absence from prior art reference any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible, Inc., 230 USPQ 81, 84 (Fed. Cir. 1986).

Claims 3-7, 9-10 and 30-36 are patentable under 35 U.S.C. 102(b) over Brown.

Brown belongs to Clairol, a women's hair coloring company.

Regarding the defendant claims, the Examiner makes a blanket statement, on page 4 of Paper No. 33, that claims 3-7, 9-10, and 30-36 are "anticipated" by Brown. However, the Examiner has not provided any basis for the features in each of the identified claims to enable Applicant to adequately rebut the rejections. The burden lies on the Examiner to make a *prima facie* case for rejection of the identified claims and the Examiner has failed in this case.

Attention is kindly drawn to the Federal Circuit's dictum:

The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The 'prima facie case' notion ... was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the *prima facie* case) to patentability, and give the applicant fair opportunity to meet those objections ... the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness. In re Oetiker, 25 USPQ2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring); see In re Piasecki, 233, USPQ 785, 788 (Fed. Cir. 1984) (emphasis added).

Claim 30 describes a kit for treating and coloring a wood substrate, comprising a first component aqueous solution of oxidizable metal salt preparation for a first application to the wood substrate, and a second component aqueous solution of oxygen source preparation for a

sequential application to the wood substrate, the aqueous solution preparations being adapted to sequentially penetrate the wood substrate when sequentially applied, and both aqueous solution preparations when applied sequentially in effective amounts, being adapted to react with each other within the wood substrate to impart physical color characteristic to the wood substrate.

Brown does not color wood, but rather dyes hair, which has nothing to do with coloring wood. Moreover, Brown has an intermediate step of contacting hair with an organic solution and rinsing or shampooing the hair, and then bleaching the hair with hydrogen peroxide to obtain a lighter color. The way hydrogen peroxide is used in Brown leads away from the present invention, because the hydrogen peroxide does not fix the metal salts in place. Nor is there anything in Brown which would suggest that Brown be used with wood.

The examiner has admitted that Brown does not anticipate the claims, pointing out at page 4, line 12 that Brown is for dyeing hair, not wood. The examiner gives no indication of how Brown anticipates a wood substrate stated six times on lines 1, 3, 6, 9, 11 and 12 of claim 30. Indeed Brown requires the living body to produce melanin, which is how Brown works. Brown would never work without the melanin. Brown is from a completely different art, and not the art to which the invention pertains. Brown belongs to Clairol, a women's hair coloring company.

The dependent claims add further unique features to claim 30, and each is patentable over Brown.

The office action is silent as to the basis for the rejection of each of the dependent claims since there is no showing as to where in Brown there is anticipation for each of the claimed features. See *In re Oetiker*, supra. Besides, the Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any anticipation rejection of the claimed features.

Claim 3 adds to claim 30 that the oxygen source is a peroxide and both formulations are aqueous solutions. Brown never mentions wood, or two solutions (Brown has three or four.) and Brown never mentions that both solutions are aqueous. Focal in Brown is 5,6-dihydroxyindole,

which is not found herein, in claim 3, 30 or any claim or in the entire disclosure.

Claim 4 adds to claim 30 that the metal salt is selected from the group consisting of salts of iron, silver, zinc, cerium, copper, magnesium, molybdenum, nickel, tin, chromium, aluminum, barium, calcium, sodium, potassium, and titanium, and combinations. Claim 4 must be read, by law, in the context of claim 30 with the six recitations of a wood substrate, not hair. Nothing in Brown would have anticipated using any of these salts on wood. Brown's metal salt has to be used in a complex way, and not followed by an oxygen source on wood, but as bleach for hair.

Claim 5 adds to claim 30 that the metal salt is selected from the group consisting of salts of aluminum, antimony, beryllium, bismuth, cadmium, chromium, cobalt, copper, gold, iridium, lead, magnesium, manganese, mercury, molybdenum, nickel, niobium, osmium, platinum, plutonium, potassium, rhodium, selenium, silicon, silver, sodium, tantalum, thorium, tin, titanium, tungsten, uranium, vanadium, and zinc, and combinations. Claim 5 must be read by, law, in the context of claim 30 with the six recitations of a wood substrate, not hair. Nothing in Brown would have anticipated using any of these salts on wood. Brown's metal had to be used on hair, either immediately before or after 5,6-dihydroxyindole.

Claim 6 adds to claim 30 that the metal salt is selected from the group consisting of sulfates, chlorides, perchlorates, acetates, nitrates, permanganates, thiosulfates, and oxides, and combinations. Nothing in Brown would have suggested using those metal salts – on wood.

Claim 7 adds to claim 30 that the metal salt is selected from the group consisting of silver sulfate, silver perchlorate, silver nitrate, silver sulfate, iron (II) chloride, zinc perchlorate, iron (II) perchlorate, iron (II) sulfate, copper acetate, sodium thiosulfate, magnesium thiosulfate, potassium thiosulfate, potassium nitrate, potassium permanganate, copper nitrate, copper II carbonate dihydroxide, copper sulfate, titanium III sulfate, magnesium nitrate, cerium (III) perchlorate, and cerium nitrate, and combinations. Nothing in Brown would have suggested using those metal salts – on wood.

Claim 9 adds to claim 30 that the oxygen source is a peroxide. Brown does not suggest

peroxide as an oxygen source to create a color in wood. Brown belongs to Clairol, a women's hair coloring company.

Brown relates to dyeing hair with an oxidation dye mixed with an oxidizing agent and a catalyst. However, nothing in the reference teaches, suggests or inherently provides for coloring a wood substrate in which substances are applied to the substrate and react in situ to provide the coloring, which has nothing to do with pre-made dyes being applied to hair. Thus, the reference leads away from the claimed invention.

Claim 10 adds to claim 30 that the oxygen source is selected from the group consisting of hydrogen peroxide, sodium peroxide, zinc peroxide, calcium peroxide, barium peroxide, and lithium peroxide, and combinations. Brown does not suggest an oxygen source for creating a color in a wood substrate, but bleach for hair.

Claim 30 describes a kit for coloring a wood substrate, comprising a metal salt preparation, and an oxygen source preparation, the preparations being adapted to penetrate the substrate when applied, and both preparations, when applied sequentially in effective amounts, being adapted to react with each other to impart a fixed physical characteristic to the wood substrate, mentioning the wood substrate no less than six times.

Claim 31 adds to claim 30 that the metal salt preparation and/or the oxygen source preparation further comprises an additive selected from the group consisting of thickener, alcohol, emulsifier, coloring agent, pigment, dye, bleach, sealer, finishing agent, tint, acrylic finish, latex finish, polyurethane, alcohol, gelling agent, tableting agent, surfactant, buffer, citric acid, tannic acid, acetic acid, other acid, color, salt, stabilizer, antimicrobial, antifungal, insecticide, insect repellent, ultraviolet protectant, and fire retardant, and combinations. Brown does not have any of these things, and especially not for wood.

Claim 32 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.001% and about 20% (w/v) metal salt. Brown does not have those features and does not have them for wood.

Claim 33 adds to claim 30 that the oxygen source preparation is an aqueous solution comprising between about 0.1% and about 50% (w/v) peroxide. Brown does not have that concentration and does not have it for wood.

Claim 34 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.025 % and about 8% (w/v) metal salt. Brown does not have that concentration and does not have it for wood.

Claim 35 adds to claim 30 that the oxygen source preparation is an aqueous solution comprising between about 0.3% and about 15% peroxide. Brown does not have that concentration and does not have it for wood.

Claim 36 adds to claim 30 that the preparations are concentrates suitable for dilution by a user. Brown does not have those concentrates and does not have them for wood.

Brown, from an unrelated art, provides for dyeing hair to promote melanogenesis in hair, which has nothing to do with solid wood substrate coloring. Brown defines dyeing the hair with intermittent intervals to a dark color and then treating with hydrogen peroxide to obtain the desired color. That is contrary to the claimed in situ reaction of the mineral salts and hydrogen peroxide within the wood substrate being treated.

Thus, Brown does not teach nor suggest the claimed invention and therefore cannot anticipate the claims.

Claims 3-10 and 30-36 are patentable under 35 U.S.C. 102(b) over Tennigkeit.

Regarding the defendant claims, the Examiner makes a blanket statement, on pages 4-5 of Paper No. 33, that claims 3-10, and 30-36 are “anticipated” by Tennigkeit. However, the Examiner has not provided any basis for the features in each of the identified claims to enable Applicant to adequately rebut the rejection. The burden lies on the Examiner to make a *prima facie* case for rejection of the identified claims and the Examiner has failed in this case.

Attention is kindly drawn to the Federal Circuit's dictum:

The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The 'prima facie case' notion ... was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the prima facie case) to patentability, and give the applicant fair opportunity to meet those objections ... the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness. *In re Oetiker*, 25 USPQ2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring); see *In re Piasecki*, 233, USPQ 785, 788 (Fed. Cir. 1984) (emphasis added).

Claims 3-10 and 30-36 have been described earlier.

The office action is silent as to the basis for the rejection of each of the dependent claims since there is no showing as to where in Brown and in Tennigkeit there is anticipation for each of the claimed features. See *In re Oetiker*, supra. Besides, the Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any anticipation rejection of the claimed features on hair.

Claim 30 describes a kit for treating and coloring a wood substrate, comprising a first component aqueous solution of oxidizable metal salt preparation for a first application to the wood substrate, and a second component aqueous solution of oxygen source preparation for a sequential application to the wood substrate, the aqueous solution preparations being adapted to sequentially penetrate the wood substrate when sequentially applied, and both aqueous solution preparations when applied sequentially in effective amounts, being adapted to react with each other within the wood substrate to impart physical color characteristic to the wood substrate.

Tennigkeit does not dye wood, but rather dyes hair, which has nothing to do with dyeing wood. Moreover, Tennigkeit has a single step of contacting hair with an organic solution in a thick gel and rinsing or shampooing the hair. The hydrogen peroxide in Tennigkeit leads away from the present invention, because the hydrogen peroxide does not fix the metal salts in place. Nor is there anything in Tennigkeit which would suggest that Tennigkeit be used with wood.

The examiner has admitted that Tennigkeit does not anticipate the claims, pointing out at page 4, line 12 that Tennigkeit is for dyeing hair, not wood. The examiner gives no indication of

how Tennigkeit anticipates a wood substrate, stated six times on lines 1, 3, 6, 9, 11 and 12 of claim 30. Indeed, Tennigkeit requires the living body, which is how Tennigkeit works. Tennigkeit would never work without the living hair, and Tennigkeit is from a completely different art, and not the art to which the invention pertains.

Claim 3 adds to claim 30 that the oxygen source is a peroxide and both formulations are aqueous solutions. Tennigkeit never mentions wood or two solutions (Tennigkeit has three or four.) and never mentions that both solutions are aqueous. Focal in Tennigkeit is a single gel with a long list of components, which is not found herein, in claim 3, 30 or any claim or in the entire disclosure.

Claim 4 adds to claim 30 that the metal salt is selected from the group consisting of salts of iron, silver, zinc, cerium, copper, magnesium, molybdenum, nickel, tin, chromium, aluminum, barium, calcium, sodium, potassium, and titanium, and combinations. Claim 4 must be read in the context of claim 30 and the six recitations of a wood substrate, not hair. Nothing in Tennigkeit would have anticipated using any of these salts on wood. Tennigkeit's metal has to be used for hair.

Claim 5 adds to claim 30 that the metal salt is selected from the group consisting of salts of aluminum, antimony, beryllium, bismuth, cadmium, chromium, cobalt, copper, gold, iridium, lead, magnesium, manganese, mercury, molybdenum, nickel, niobium, osmium, platinum, plutonium, potassium, rhodium, selenium, silicon, silver, sodium, tantalum, thorium, tin, titanium, tungsten, uranium, vanadium, and zinc, and combinations. Claim 5 must be read in the context of claim 30 and the six recitations of a wood substrate, not hair. Nothing in Tennigkeit would have anticipated using any of these salts on wood. Tennigkeit's metal has to be used on hair, and in a gel combined with many components.

Claim 6 adds to claim 30 that the metal salt is selected from the group consisting of sulfates, chlorides, perchlorates, acetates, nitrates, permanganates, thiosulfates, and oxides, and combinations. Nothing in Tennigkeit would have suggested using those metal salts – on wood.

Claim 7 adds to claim 30 that the metal salt is selected from the group consisting of silver sulfate, silver perchlorate, silver nitrate, silver sulfate, iron (II) chloride, zinc perchlorate, iron (II) perchlorate, iron (II) sulfate, copper acetate, sodium thiosulfate, magnesium thiosulfate, potassium thiosulfate, potassium nitrate, potassium permanganate, copper nitrate, copper II carbonate dihydroxide, copper sulfate, titanium III sulfate, magnesium nitrate, cerium (III) perchlorate, and cerium nitrate, and combinations. Nothing in Tennigkeit would have suggested using those metal salts – on wood.

Claim 9 adds to claim 30 that the oxygen source is a peroxide. Tennigkeit does not suggest that feature, but only suggests mixing a thick multi-component paste with a 2 % solution only to control pH.

Tennigkeit relates to dyeing hair with a gel having an oxidation dye mixed with an oxidizing agent and a catalyst. However, nothing in the reference teaches, suggests or inherently provides for coloring a wood substrate in which substances are applied to the substrate and react in situ to provide the coloring which has nothing to do with pre-made dyes being applied to hair. Thus, the reference leads away from the claimed invention.

Claim 10 adds to claim 30 that the oxygen source is selected from the group consisting of hydrogen peroxide, sodium peroxide, zinc peroxide, calcium peroxide, barium peroxide, and lithium peroxide, and combinations. . Tennigkeit does not suggest an oxygen source for wood, but a pH controller to be mixed with a thick paste for hair.

Claim 30 describes a kit for coloring a wood substrate, comprising a metal salt preparation, and an oxygen source preparation, the preparations being adapted to penetrate the substrate when applied, and both preparations, when applied sequentially in effective amounts, being adapted to react with each other to impart a fixed physical characteristic to the wood substrate, mentioning the wood substrate no less than six times.

Claim 31 adds to claim 30 that the metal salt preparation and/or the oxygen source preparation further comprises an additive selected from the group consisting of thickener,

alcohol, emulsifier, coloring agent, pigment, dye, bleach, sealer, finishing agent, tint, acrylic finish, latex finish, polyurethane, alcohol, gelling agent, tableting agent, surfactant, buffer, citric acid, tannic acid, acetic acid, other acid, color, salt, stabilizer, antimicrobial, antifungal, insecticide, insect repellent, ultraviolet protectant, and fire retardant, and combinations.

Tennigkeit does not have any of these things, and especially not for wood.

Claim 32 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.001% and about 20% (w/v) metal salt. Tennigkeit does not have those features and does not have them for wood.

Claim 33 adds to claim 30 that the oxygen source preparation is an aqueous solution comprising between about 0.1% and about 50% (w/v) peroxide. . Tennigkeit does not have that concentration and does not have it for wood.

Claim 34 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.025 % and about 8% (w/v) metal salt. Tennigkeit does not have that concentration and does not have it for wood.

Claim 35 adds to claim 30 that the oxygen source preparation is an aqueous solution comprising between about 0.3% and about 15% peroxide. Tennigkeit does not have that concentration and does not have it for wood.

Claim 36 adds to claim 30 that the preparations are concentrates suitable for dilution by a user. Tennigkeit does not have those concentrates and does not have them for wood.

Tennigkeit, from an unrelated art, provides for dyeing hair with a thick paste, which has nothing to do with solid wood substrate coloring. Tennigkeit defines dyeing the hair with a thick paste to obtain the desired color. That is contrary to the claimed in situ reaction of the mineral salts and hydrogen peroxide within the wood substrate being treated.

Thus, Tennigkeit does not teach nor suggest the claimed invention and therefore cannot anticipate the claims.

Claims 3-10 and 30-36 are patentable under 35 U.S.C. 102(b) over Tennigkeit.

Regarding the defendant claims, the Examiner makes a blanket statement, on pages 4-5 of Paper No. 33, that claims 3-10, and 30-36 are “anticipated” by Tennigkeit. However, the Examiner has not provided any basis for the features in each of the identified claims to enable Applicant to adequately rebut the rejection. The burden lies on the Examiner to make a *prima facie* case for rejection of the identified claims and the Examiner has failed in this case.

Attention is kindly drawn to the Federal Circuit's dictum:

The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The 'prima facie case' notion ... was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the *prima facie* case) to patentability, and give the applicant fair opportunity to meet those objections ... the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness.

In re Oetiker, 25 USPQ2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring); see In re Piasecki, 233, USPQ 785, 788 (Fed. Cir. 1984) (emphasis added).

Claims 3-10 and 30-36 have been described earlier.

The office action is silent as to the basis for the rejection of each of the dependent claims since there is no showing as to where in Brown and in Tennigkeit there is anticipation for each of the claimed features. See In re Oetiker, *supra*. Besides, the Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any anticipation rejection of the claimed features. "To establish inherency, the extrinsic evidence 'must make it clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'" In re Robertson, 48 USPQ2d 1949, 1951 (Fed. Cir. 1999) quoting from Continental Can Co. v. Monsanto Co., 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

Claims 1, 3-6, 9-10, 30, and 32-36 are patentable under 35 U.S.C. 102(b) over SU '297 (Light).

Regarding the defendant claims, the Examiner makes a blanket statement, on page 5 of

Paper No. 33, that claims 1, 3-6, 9-10, 30 and 32-36 are “anticipated” by Light. However, the Examiner has not provided any basis for the features in each of the identified claims to enable Applicant to adequately rebut the rejections. The burden lies on the Examiner to make a *prima facie* case for rejection of the identified claims and the Examiner has failed in this case.

Attention is kindly drawn to the Federal Circuit's dictum:

The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The 'prima facie case' notion ... was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the *prima facie* case) to patentability, and give the applicant fair opportunity to meet those objections ... the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness.
In re Oetiker, 25 USPQ2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring); see In re Piasecki, 233, USPQ 785, 788 (Fed. Cir. 1984) (emphasis added).

Claim 1 describes a kit for imparting a pre-determined color to a solid wood substrate, comprising a first component of an aqueous solution of a mineral salt, and a second component of an aqueous solution of a peroxide, the mineral salt and peroxide solutions being capable, when applied sequentially in effective amounts to the wood substrate, of reacting with each other in the presence of the wood substrate to impart the color to the solid wood substrate. A solid wood substrate is mentioned three times in claim 1. There is no way in which Light's dyeing and tallowing leather relates to a solid wood substrate.

Claims 3-6, 9-10, 30, and 32-36 have been described earlier.

Claim 30 describes a kit for treating and coloring a wood substrate, comprising a first component aqueous solution of oxidizable metal salt preparation for a first application to the wood substrate, and a second component aqueous solution of oxygen source preparation for a sequential application to the wood substrate, the aqueous solution preparations being adapted to sequentially penetrate the wood substrate when sequentially applied, and both aqueous solution preparations when applied sequentially in effective amounts, being adapted to react with each other within the wood substrate to impart physical color characteristic to the wood substrate.

Light does not dye wood, but rather dyes leather, which has nothing to do with dyeing wood. Light leads away from the present invention, because hydrogen peroxide does not fix the metal salts in place. Nor is there anything in Light that would have suggested that Light be used with wood.

The examiner has admitted that Light does not anticipate the claims, pointing out that Light is for dyeing leather, not wood. The examiner gives no indication how Light anticipates a wood substrate, stated six times on lines 1, 3, 6, 9, 11 and 12 of claim 30. Indeed, Light requires leather, which is how Light works. Light would never work without leather. Light is from a completely different art, and not the art to which the invention pertains.

Claim 3 adds to claim 30 that the oxygen source is a peroxide and both formulations are aqueous solutions. Light never mentions wood or two solutions (Light has three or four.) and never mentions that both solutions are aqueous. Focal in Light is dyeing and tallowing leather, which is not found herein, in claim 3, 30 or any claim.

Claim 4 adds to claim 30 that the metal salt is selected from the group consisting of salts of iron, silver, zinc, cerium, copper, magnesium, molybdenum, nickel, tin, chromium, aluminum, barium, calcium, sodium, potassium, and titanium, and combinations. Claim 4 must be read in the context of claim 30 and the six recitations of a wood substrate, not leather. Nothing in Light would have anticipated using any of these salts on wood. Light's metal has to be used not as an oxygen source for wood, but as colorant for leather.

Claim 5 adds to claim 30 that the metal salt is selected from the group consisting of salts of aluminum, antimony, beryllium, bismuth, cadmium, chromium, cobalt, copper, gold, iridium, lead, magnesium, manganese, mercury, molybdenum, nickel, niobium, osmium, platinum, plutonium, potassium, rhodium, selenium, silicon, silver, sodium, tantalum, thorium, tin, titanium, tungsten, uranium, vanadium, and zinc, and combinations. Claim 5 must be read in the context of claim 30 and the six recitations of a wood substrate, not leather. Nothing in Light would have anticipated using any of these salts on wood. Light's metal has to be used on

leather.

Claim 6 adds to claim 30 that the metal salt is selected from the group consisting of sulfates, chlorides, perchlorates, acetates, nitrates, permanganates, thiosulfates, and oxides, and combinations. Nothing in Light would have suggested using those metal salts – on wood.

Claim 7 adds to claim 30 that the metal salt is selected from the group consisting of silver sulfate, silver perchlorate, silver nitrate, silver sulfate, iron (II) chloride, zinc perchlorate, iron (II) perchlorate, iron (II) sulfate, copper acetate, sodium thiosulfate, magnesium thiosulfate, potassium thiosulfate, potassium nitrate, potassium permanganate, copper nitrate, copper II carbonate dihydroxide, copper sulfate, titanium III sulfate, magnesium nitrate, cerium (III) perchlorate, and cerium nitrate, and combinations. Nothing in Light would have suggested using those metal salts on wood.

Claim 9 adds to claim 30 that the oxygen source is a peroxide. Light does not suggest that feature.

Light relates to dyeing leather with an oxidation dye mixed with an oxidizing agent and a catalyst. However, nothing in the reference teaches, suggests or inherently provides for coloring a wood substrate in which substances are applied to the substrate and react in situ to provide the coloring which has nothing to do with pre-made dyes being applied to leather. Thus, the reference leads away from the claimed invention.

Claim 10 adds to claim 30 that the oxygen source is selected from the group consisting of hydrogen peroxide, sodium peroxide, zinc peroxide, calcium peroxide, barium peroxide, and lithium peroxide, and combinations. . Light does not suggest an oxygen source for wood, but a bleach for leather.

Claim 30 describes a kit for coloring a wood substrate, comprising a metal salt preparation, and an oxygen source preparation, the preparations being adapted to penetrate the substrate when applied, and both preparations, when applied sequentially in effective amounts, being adapted to react with each other to impart a fixed physical characteristic to the wood

substrate, mentioning the wood substrate no less than six times.

Claim 31 adds to claim 30 that the metal salt preparation and/or the oxygen source preparation further comprises an additive selected from the group consisting of thickener, alcohol, emulsifier, coloring agent, pigment, dye, bleach, sealer, finishing agent, tint, acrylic finish, latex finish, polyurethane, alcohol, gelling agent, tableting agent, surfactant, buffer, citric acid, tannic acid, acetic acid, other acid, color, salt, stabilizer, antimicrobial, antifungal, insecticide, insect repellent, ultraviolet protectant, and fire retardant, and combinations. Light does not have any of these things, and especially not for wood.

Claim 32 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.001% and about 20% (w/v) metal salt. Light does not have those features and does not have them for wood.

Claim 33 adds to claim 30 that the oxygen source preparation is an aqueous solution comprising between about 0.1% and about 50% (w/v) peroxide. . Light does not have that concentration and does not have it for wood.

Claim 34 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.025 % and about 8% (w/v) metal salt. Light does not have that concentration and does not have it for wood.

Claim 35 adds to claim 30 that the oxygen source preparation is an aqueous solution comprising between about 0.3% and about 15% peroxide. Light does not have that concentration and does not have it for wood.

Claim 36 adds to claim 30 that the preparations are concentrates suitable for dilution by a user. Light does not have those concentrates and does not have them for wood.

Light, from an unrelated art, provides for dyeing and tallowing leather. The final office action is silent as to the basis for the rejection of each of the dependent claims since there is no showing as to where in Light there is anticipation for each of the claimed features. See *In re Oetiker*, supra. Besides, the Examiner concedes in paper # 36 that applicant

has pointed out the differences between the claims and the references, which suffices to overcome any anticipation rejection of the claimed features.

Light has nothing to do with the present invention because Light is a process for de-tanning goatskin, followed by a pickling and re-tanning or final tanning, followed by neutralization and a combined dyeing and tallowing. Nothing in Light would refer to wood, and the use of the multiple steps in Light would lead away from the present invention. The complexity of Light would lead one away from the present invention. Moreover, there is nothing in the multiple step process of treating leather that would suggest a dyeing of wood in a two-step process.

Light relates to leather glove production by tanning in a combined hydrogen peroxide-sodium hydroxide solution and then treating with aluminum slats and dyeing. The reference teaching seeks to solve the problem of repeated tanning and pickling of leather rather than having anything to do with color preservation as uniquely provided by the present invention.

"Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. Continental Can Co. v. Monsanto Co., 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

Claims 3-7, 30, 31, and 36 are patentable under 35 U.S.C. 102(b) over Yantai.

Regarding the defendant claims, the Examiner makes a blanket statement, on page 5 of Paper No. 33, that claims 3-7, 30, 31 and 36 are "anticipated" by Yantai. However, the Examiner has not provided any basis for the features in each of the identified claims to enable Applicant to adequately rebut the rejections. The burden lies on the Examiner to make a *prima facie* case for rejection of the identified claims and the Examiner has failed in this case.

Attention is kindly drawn to the Federal Circuit's dictum:

The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The 'prima

facie case' notion ... was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the *prima facie case*) to patentability, and give the applicant fair opportunity to meet those objections ... the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness.

In re Oetiker, 25 USPQ2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring); see In re Piasecki, 233, USPQ 785, 788 (Fed. Cir. 1984) (emphasis added).

Claims 3-7, 30, 31, and 36 have been described earlier.

Claim 30 describes a kit for treating and coloring a wood substrate, comprising a first component aqueous solution of oxidizable metal salt preparation for a first application to the wood substrate, and a second component aqueous solution of oxygen source preparation for a sequential application to the wood substrate, the aqueous solution preparations being adapted to sequentially penetrate the wood substrate when sequentially applied, and both aqueous solution preparations when applied sequentially in effective amounts, being adapted to react with each other within the wood substrate to impart physical color characteristic to the wood substrate.

Yantai does not color wood, but rather dyes marble, which has nothing to do with dyeing wood. Moreover, Yantai has a single step of contacting marble with an organic solution and rinsing the marble. The hydrogen peroxide in Yantai leads away from the present invention, because the hydrogen peroxide does not fix the metal salts in place. Nor is there anything in Yantai that would suggest that Yantai be used with wood.

The examiner has admitted that Yantai does not anticipate the claims, pointing out at page 5 that Yantai is for dyeing marble, not wood. The examiner gives no indication how Yantai anticipates a wood substrate, stated six times on lines 1, 3, 6, 9, 11 and 12 of claim 30. Indeed, Yantai requires the marble, which is how Yantai works. Yantai would never work without the marble, and Yantai is from a completely different art, and not the art to which the invention pertains.

Claim 3 adds to claim 30 that the oxygen source is peroxide and both formulations are aqueous solutions. Yantai never mentions wood, or two solutions (Yantai has three or four.) and never mentions that both solutions are aqueous. Focal in Yantai is marble, which is not found

herein, in claim 3, 30 or any claim, or in the entire disclosure.

Claim 4 adds to claim 30 that the metal salt is selected from the group consisting of salts of iron, silver, zinc, cerium, copper, magnesium, molybdenum, nickel, tin, chromium, aluminum, barium, calcium, sodium, potassium, and titanium, and combinations. Claim 4 must be read by law in the context of claim 30 and the six recitations of a wood substrate, not marble. Nothing in Yantai would have anticipated using any of these salts on wood. Yantai's metal has to be used for marble.

Claim 5 adds to claim 30 that the metal salt is selected from the group consisting of salts of aluminum, antimony, beryllium, bismuth, cadmium, chromium, cobalt, copper, gold, iridium, lead, magnesium, manganese, mercury, molybdenum, nickel, niobium, osmium, platinum, plutonium, potassium, rhodium, selenium, silicon, silver, sodium, tantalum, thorium, tin, titanium, tungsten, uranium, vanadium, and zinc, and combinations. Claim 5 must be read by law in the context of claim 30 and the six recitations of a wood substrate, not marble. Nothing in Yantai would have anticipated using any of these salts on wood. Yantai's metal has to be used on marble.

Claim 6 adds to claim 30 that the metal salt is selected from the group consisting of sulfates, chlorides, perchlorates, acetates, nitrates, permanganates, thiosulfates, and oxides, and combinations. Nothing in Yantai would have suggested using those metal salts on wood.

Claim 7 adds to claim 30 that the metal salt is selected from the group consisting of silver sulfate, silver perchlorate, silver nitrate, silver sulfate, iron (II) chloride, zinc perchlorate, iron (II) perchlorate, iron (II) sulfate, copper acetate, sodium thiosulfate, magnesium thiosulfate, potassium thiosulfate, potassium nitrate, potassium permanganate, copper nitrate, copper II carbonate dihydroxide, copper sulfate, titanium III sulfate, magnesium nitrate, cerium (III) perchlorate, and cerium nitrate, and combinations. Nothing in Yantai would have suggested using those metal salts on wood.

Claim 9 adds to claim 30 that the oxygen source is a peroxide. Yantai does not suggest

that feature, but only suggests mixing to control pH.

Yantai relates to dyeing marble. However, nothing in the reference teaches, suggests or inherently provides for coloring a wood substrate in which substances are applied to the substrate and react in situ to provide the coloring which has nothing to do with pre-made dyes being applied to marble. Thus, the reference leads away from the claimed invention.

Claim 10 adds to claim 30 that the oxygen source is selected from the group consisting of hydrogen peroxide, sodium peroxide, zinc peroxide, calcium peroxide, barium peroxide, and lithium peroxide, and combinations. . Yantai does not suggest an oxygen source for wood, but a pH controller to be mixed for marble.

Claim 30 describes a kit for coloring a wood substrate, comprising a metal salt preparation, and an oxygen source preparation, the preparations being adapted to penetrate the substrate when applied, and both preparations, when applied sequentially in effective amounts, being adapted to react with each other to impart a fixed physical characteristic to the wood substrate, mentioning the wood substrate no less than six times.

Claim 31 adds to claim 30 that the metal salt preparation and/or the oxygen source preparation further comprises an additive selected from the group consisting of thickener, alcohol, emulsifier, coloring agent, pigment, dye, bleach, sealer, finishing agent, tint, acrylic finish, latex finish, polyurethane, alcohol, gelling agent, tableting agent, surfactant, buffer, citric acid, tannic acid, acetic acid, other acid, color, salt, stabilizer, antimicrobial, antifungal, insecticide, insect repellent, ultraviolet protectant, and fire retardant, and combinations. Yantai does not have any of these things, and especially not for wood.

Claim 32 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.001% and about 20% (w/v) metal salt. Yantai does not have those features and does not have them for wood.

Claim 33 adds to claim 30 that the oxygen source preparation is an aqueous solution comprising between about 0.1% and about 50% (w/v) peroxide. . Yantai does not have that

concentration and does not have it for wood.

Claim 34 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.025 % and about 8% (w/v) metal salt. Yantai does not have that concentration and does not have it for wood.

Claim 35 adds to claim 30 that the oxygen source preparation is an aqueous solution comprising between about 0.3% and about 15% peroxide. Yantai does not have that concentration and does not have it for wood.

Claim 36 adds to claim 30 that the preparations are concentrates suitable for dilution by a user. Yantai does not have those concentrates and does not have them for wood.

The office action is silent as to the basis for the rejection of each of the dependent claims since there is no showing as to where in Yantai there is anticipation for each of the claimed features. See *In re Oetiker*, supra. Besides, the Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any anticipation rejection of the claimed features.

Yantai relates to treatment of marble to form glazed surfaces and thereafter etching and exposing the treated surface to make black markings of the decorations. That teaching has nothing to do with wood substrates and would in fact lead away from the present invention since there is not teaching or suggestion of an in situ reaction of two solutions to give an end-result of substrate collation.

Claims 2-8, 9-10, 20-22, 30-34, and 36 are patentable under 35 U.S.C. 102(b) over Dombay.

Regarding the dependant claims, the Examiner makes a blanket statement, on page 6 of Paper No. 33, that claims 2-8, 9-10, 20-22, 30-34, and 36 are “anticipated” by Dombay.

However, the Examiner has not provided any basis for the features in each of the identified claims to enable Applicant to adequately rebut the rejections. The burden lies on the Examiner to make a *prima facie* case for rejection of the identified claims and the Examiner has failed in this case.

Attention is kindly drawn to the Federal Circuit's dictum:

The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The 'prima facie case' notion ... was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the *prima facie* case) to patentability, and give the applicant fair opportunity to meet those objections ... the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness.
In re Oetiker, 25 USPQ2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring); see In re Piasecki, 233, USPQ 785, 788 (Fed. Cir. 1984) (emphasis added).

Claim 2 defines a method for treating and coloring a wood substrate with the kit of claim 30 comprising the steps of contacting a substrate with a formulation comprising a metal salt, and allowing an effective amount of the formulation to penetrate the substrate, and sequentially but without regard to order; contacting the substrate with a formulation comprising an oxygen source, and allowing an effective amount of the formulation to penetrate the substrate; such that the two formulations react with each other in contact with the substrate to impart a stable change to the characteristics of the substrate.

The Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any anticipation rejection of the claimed features.

Dombay merely coats wood with an oxidizing agent to lighten the wood. Dombay uses ammonium persulfate, and cupric sulfate as accelerants in concentrated hydrochloric acid with a methylated spirit, and an organic solvent. In some cases Dombay treats some woods with an A solution to produce a darkening effect, and some woods with a B solution to produce a lightening effect. Whatever the result of Dombay, it is clear that Dombay does not teach the present

invention as specifically pointed out in the claims.

Dombay relates to wood bleaching in which the reference mandates the use of methylated spirit, which the present invention particularly avoids. The present specification describes the ill-effects of prior art procedures that mandate alcohol based substances which harm the environment. In fact, Example 4, relied on by the Examiner, provides for 150 ml of methylated spirit. Potassium permanganate and cupric sulphate are used as bleaching accelerants in the one-step Dombay bleaching process. Acetic acid is used to stop the bleaching.

Nothing in the entire reference teaches or suggests the unique kit that has an aqueous solution of a mineral salt and an aqueous solution of a peroxide, with the mineral salt solution being applied prior to the peroxide solution and the in situ reaction of the applied substances with the substrate.

Claims 3-7, 9-10, and 30-34, and 36 have been described earlier.

Claim 30 describes a kit for treating and coloring a wood substrate, comprising a first component aqueous solution of oxidizable metal salt preparation for a first application to the wood substrate, and a second component aqueous solution of oxygen source preparation for a sequential application to the wood substrate, the aqueous solution preparations being adapted to sequentially penetrate the wood substrate when sequentially applied, and both aqueous solution preparations when applied sequentially in effective amounts, being adapted to react with each other within the wood substrate to impart physical color characteristic to the wood substrate.

Dombay merely coats wood with an oxidizing agent to lighten the wood. Dombay uses ammonium persulfate, and cupric sulfate as accelerants in concentrated hydrochloric acid with a methylated spirit, and an organic solvent. In some cases Dombay treats some woods with an A solution to produce a darkening effect, and some woods with a B solution to produce a lightening effect. Whatever the result of Dombay, it is clear that Dombay does not teach the present invention as specifically pointed out in the claims.

Dombay relates to wood bleaching in which the reference mandates the use of methylated

spirit, which the present invention particularly avoids. The present specification describes the ill-effects of prior art procedures that mandate alcohol based substances which harm the environment. In fact, Example 4, relied on by the Examiner, provides for 150 ml of methylated spirit. Potassium permanganate and cupric sulphate are used as bleaching accelerants in the one-step Dombay bleaching process. Acetic acid is used to stop the bleaching.

Nothing in the entire reference teaches or suggests the unique kit that has an aqueous solution of a mineral salt and an aqueous solution of a peroxide, with the mineral salt solution being applied prior to the peroxide solution and the in situ reaction of the applied substances with the substrate.

Claim 3 adds to claim 30 that the oxygen source is a peroxide and both formulations are aqueous solutions. Dombay never mentions two solutions (three) and never mentions that both solutions are aqueous. Focal in Dombay is bleaching with strong caustic agents, which is not found herein, in claim 3, 30 or any claim.

Claim 4 adds to claim 30 that the metal salt is selected from the group consisting of salts of iron, silver, zinc, cerium, copper, magnesium, molybdenum, nickel, tin, chromium, aluminum, barium, calcium, sodium, potassium, and titanium, and combinations. Claim 4 must be read in the context of claim 30. Nothing in Dombay would have anticipated using any of these salts. Dombay's metal has to be used in a strong caustic solution for wood. There is no subsequent oxidizing. Dombay always finishes with a glacial acid.

Claim 5 adds to claim 30 that the metal salt is selected from the group consisting of salts of aluminum, antimony, beryllium, bismuth, cadmium, chromium, cobalt, copper, gold, iridium, lead, magnesium, manganese, mercury, molybdenum, nickel, niobium, osmium, platinum, plutonium, potassium, rhodium, selenium, silicon, silver, sodium, tantalum, thorium, tin, titanium, tungsten, uranium, vanadium, and zinc, and combinations. Claim 5 must be read by, law, in the context of claim 30. Nothing in Dombay would have anticipated using any of these salts on wood. Dombay's metal has to be used with a strong caustic oxidizer at the same time

Claim 6 adds to claim 30 that the metal salt is selected from the group consisting of sulfates, chlorides, perchlorates, acetates, nitrates, permanganates, thiosulfates, and oxides, and combinations. Nothing in Dombay would have suggested using those metal salts in the steps of the kit.

Claim 7 adds to claim 30 that the metal salt is selected from the group consisting of silver sulfate, silver perchlorate, silver nitrate, silver sulfate, iron (II) chloride, zinc perchlorate, iron (II) perchlorate, iron (II) sulfate, copper acetate, sodium thiosulfate, magnesium thiosulfate, potassium thiosulfate, potassium nitrate, potassium permanganate, copper nitrate, copper II carbonate dihydroxide, copper sulfate, titanium III sulfate, magnesium nitrate, cerium (III) in the context of claim 30 and. Nothing in Dombay would have anticipated using any of these salts in an aqueous solution followed by a weak oxidizing aqueous solution. Dombay's metal has to be used in a caustic oxidizer solution.

Claim 8 adds to claim 30 that the metal salt is selected from the group consisting of molybdenum (VI) oxide, zinc sulfate, copper (II) chloride, nickel perchlorate, nickel sulfate, copper (II) perchlorate, tin (II) sulfate, tin (I) chloride, chromium (III) sulfate, aluminum sulfate, cerium (III) perchlorate, zinc perchlorate, titanium hydride, chromium (III) perchlorate, zinc powder, manganese (II) chloride, aluminum chloride, titanium (IV) chloride, silver chloride, and titanium (II) sulfate, and combinations.. Nothing in Dombay would have anticipated using any of these salts in an aqueous solution followed by a weak oxidizing aqueous solution. Dombay's metal has to be used in a caustic oxidizer solution.

Claim 9 adds to claim 30 that the oxygen source is a peroxide. Dombay uses a strong caustic and uses it simultaneously.

Claim 10 adds to claim 30 that the oxygen source is selected from the group consisting of hydrogen peroxide, sodium peroxide, zinc peroxide, calcium peroxide, barium peroxide, and lithium peroxide, and combinations.. Dombay uses a strong caustic and uses it simultaneously.

Claim 20 adds to claim 2 the step of drying the substrate between the two steps. Dombay does not have drying.

Claim 21 adds to claim 2 that the preparations are aqueous solutions and are applied between the freezing point and boiling point of the solutions under the process conditions of the method. Dombay uses organic solvent and in a single coloring step.

Claim 22 adds to claim 2 applying a sealing coat over the substrate surface. Dombay does not apply a seal coat.

Claim 31 adds to claim 30 that the metal salt preparation and/or the oxygen source preparation further comprises an additive selected from the group consisting of thickener, alcohol, emulsifier, coloring agent, pigment, dye, bleach, sealer, finishing agent, tint, acrylic finish, latex finish, polyurethane, alcohol, gelling agent, tableting agent, surfactant, buffer, citric acid, tannic acid, acetic acid, other acid, color, salt, stabilizer, antimicrobial, antifungal, insecticide, insect repellent, ultraviolet protectant, and fire retardant, and combinations. Dombay does not have separate aqueous solutions that have these components.

Claim 32 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.001% and about 20% (w/v) metal salt. Dombay does not have that concentration in aqueous solution.

Claim 33 adds to claim 30 that the oxygen source preparation is an aqueous solution comprising between about 0.1% and about 50% (w/v) peroxide. . Dombay does not have that concentration in aqueous solution.

Claim 34 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.025 % and about 8% (w/v) metal salt. . Dombay does not have that concentration in aqueous solution.

Claim 36 adds to claim 30 that the preparations are concentrates suitable for dilution by a user. . Dombay does not have that concentration suitable for dilution.

In separately rejecting the same claims as obvious under 103(a), the examiner has

admitted and correctly so that Dombay does not anticipate Claims 2, 30, or their dependent claims 3-10, 20-22 and 30-36. The office action is silent as to the basis for the rejection of each of the dependent claims since there is no showing as to where in Dombay there is anticipation for each of the claimed features. See *In re Oetiker*, *supra*. Besides, the Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any anticipation rejection of the claimed features.

The same unobvious distinctions over the prior art Dombay as stated in the paragraphs immediately above apply to the erroneous 103 rejection.

Claim 35 was not rejected on Dombay 102

Dombay merely coats wood with an oxidizing agent to lighten the wood. Dombay uses ammonium persulfate, and cupric sulfate as accelerants in concentrated hydrochloric acid with a methylated spirit, and an organic solvent teepol. In some cases Dombay treats some woods with an A solution to produce a darkening effect, and some woods with a B solution to produce a lightening effect. Whatever the result of Dombay, it is clear that Dombay does not teach the present invention as specifically pointed out in the claims.

Dombay relates to wood bleaching in which the reference mandates the use of methylated spirit, which the present invention particularly avoids. The present specification describes the ill-effects of prior art procedures that mandate alcohol based substances which harm the environment. In fact, Example 4, relied on by the Examiner, provides for 150 ml of methylated spirit. Potassium permanganate and cupric sulphate are used as bleaching accelerants in the one-step Dombay bleaching process. Acetic acid is used to stop the bleaching.

Nothing in the entire reference teaches or suggests the unique kit that has an aqueous solution of a mineral salt and an aqueous solution of a peroxide, with the mineral salt solution being applied prior to the peroxide solution and the in situ reaction of the applied substances with the substrate.

Claims 2-10, 21, 30, 31, and 36 are patentable under 35 U.S.C. 102(b) over Bures.

Regarding the defendant claims, the Examiner makes a blanket statement, on page 7 of Paper No. 33, that claims 2-10, 21, 30, 31, and 36 are “anticipated” by Bures. However, the Examiner has not provided any basis for the features in each of the identified claims to enable Applicant to adequately rebut the rejections. The burden lies on the Examiner to make a *prima facie* case for rejection of the identified claims and the Examiner has failed in this case.

Attention is kindly drawn to the Federal Circuit's dictum:

The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The 'prima facie case' notion ... was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the *prima facie* case) to patentability, and give the applicant fair opportunity to meet those objections ... the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness.

In re Oetiker, 25 USPQ2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring); see *In re Piasecki*, 233, USPQ 785, 788 (Fed. Cir. 1984) (emphasis added).

Claims 2-10, 21, 30, 31, and 36 have been described earlier.

The office action is silent as to the basis for the rejection of each of the dependent claims since there is no showing as to where in Bures there is anticipation for each of the claimed features. See *In re Oetiker*, *supra*. Besides, the Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any anticipation rejection of the claimed features.

Bures relates to a three step process of treating woods with metal salts, oxidants, dyes and permeation agents. However, the reference does not teach nor suggest a kit for treating and coloring a wood substrate, comprising a first component aqueous solution of oxidizable metal salt preparation for a first application to the wood substrate, and a second component aqueous solution of oxygen source preparation for a sequential application to the wood substrate.

Bures has nothing to do with the aqueous solution preparations being adapted to sequentially penetrate the wood substrate when sequentially applied, and both aqueous solution

preparations when applied sequentially in effective amounts, being adapted to react with each other within the wood substrate to impart physical color characteristic to the wood substrate.

Claim 2 defines a method for treating and coloring a wood substrate with the kit of claim 30 comprising the steps of contacting a substrate with a formulation comprising a metal salt, and allowing an effective amount of the formulation to penetrate the substrate, and sequentially but without regard to order; contacting the substrate with a formulation comprising an oxygen source, and allowing an effective amount of the formulation to penetrate the substrate; such that the two formulations react with each other in contact with the substrate to impart a stable change to the characteristics of the substrate.

The Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any anticipation rejection of the claimed features.

Bures coats wood with three complex inorganic, then organic and inorganic, then inorganic with an organic polar solvent. Bures uses in his second step at least one hydroxyaromatic, aminoaromatic or heterocyclic compound with 3-77 atoms in a mixed inorganic or organic solvent, not the thing that the present invention as claimed is made of. In all cases Bures treats woods with A, B, and C solutions to produce distinct effects. Whatever the result of Bures, it is clear that Bures does not teach the present invention as specifically pointed out in the claims.

Bures relates to wood treatment in three steps in which the reference mandates the use of organics as solvents, which the present invention particularly avoids. The present specification describes the ill-effects of prior art procedures that mandate organic based substances which harm the environment. In fact, the parts relied on by the Examiner, provide for organic materials and solvents. Nothing in the entire reference teaches or suggests the unique kit that has an aqueous solution of a mineral salt and an aqueous solution of a peroxide, with the mineral salt solution being applied prior to the peroxide solution and the in situ reaction of the applied

substances with the substrate.

Claims 3-7, 9-10, and 30-34, and 36 have been described earlier.

Claim 30 describes a kit for treating and coloring a wood substrate, comprising a first component aqueous solution of oxidizable metal salt preparation for a first application to the wood substrate, and a second component aqueous solution of oxygen source preparation for a sequential application to the wood substrate, the aqueous solution preparations being adapted to sequentially penetrate the wood substrate when sequentially applied, and both aqueous solution preparations when applied sequentially in effective amounts, being adapted to react with each other within the wood substrate to impart physical color characteristic to the wood substrate.

Bures coats wood with three complex inorganic, then organic and inorganic, then inorganic with an organic polar solvent. Bures uses in his second step at least one hydroxyaromatic, aminoaromatic or heterocyclic compound with 3-77 atoms in a mixed inorganic or organic solvent, not the thing that the present invention as claimed is made of. In all cases Bures treats woods with A, B, and C solutions to produce distinct effects. Whatever the result of Bures, it is clear that Bures does not teach the present invention as specifically pointed out in the claims.

Bures relates to wood treatment in three steps in which the reference mandates the use of organics and solvents, which the present invention particularly avoids. The present specification describes the ill-effects of prior art procedures that mandate organic based substances which harm the environment. In fact, the parts relied on by the Examiner, provide for organic materials and solvents.

Nothing in the entire reference teaches or suggests the unique kit that has an aqueous solution of a mineral salt and an aqueous solution of a peroxide, with the mineral salt solution being applied prior to the peroxide solution and the in situ reaction of the applied substances with the substrate.

Claim 3 adds to claim 30 that the oxygen source is a peroxide and both formulations are aqueous solutions. Bures never mentions two solutions (but three) and never mentions that both solutions are aqueous. Focal in Bures is using organic agents, which is not found herein, in claim 3, 30 or any claim.

Claim 4 adds to claim 30 that the metal salt is selected from the group consisting of salts of iron, silver, zinc, cerium, copper, magnesium, molybdenum, nickel, tin, chromium, aluminum, barium, calcium, sodium, potassium, and titanium, and combinations. Claim 4 must be read in the context of claim 30. Nothing in Bures would have anticipated using any of these salts. Bures' metal has to be used in an organic solution for wood. There is no subsequent oxidizing. Bures always finishes with silver nitrate and other components in solvents which are not water.

Claim 5 adds to claim 30 that the metal salt is selected from the group consisting of salts of aluminum, antimony, beryllium, bismuth, cadmium, chromium, cobalt, copper, gold, iridium, lead, magnesium, manganese, mercury, molybdenum, nickel, niobium, osmium, platinum, plutonium, potassium, rhodium, selenium, silicon, silver, sodium, tantalum, thorium, tin, titanium, tungsten, uranium, vanadium, and zinc, and combinations. Claim 5 must be read by, law, in the context of claim 30. Nothing in Bures would have anticipated using any of these salts on wood. Bures metal has to be used with a strong caustic oxidizer at the same time

Claim 6 adds to claim 30 that the metal salt is selected from the group consisting of sulfates, chlorides, perchlorates, acetates, nitrates, permanganates, thiosulfates, and oxides, and combinations. Nothing in Bures would have suggested using those metal salts in the steps of the kit.

Claim 7 adds to claim 30 that the metal salt is selected from the group consisting of silver sulfate, silver perchlorate, silver nitrate, silver sulfate, iron (II) chloride, zinc perchlorate, iron (II) perchlorate, iron (II) sulfate, copper acetate, sodium thiosulfate, magnesium thiosulfate, potassium thiosulfate, potassium nitrate, potassium permanganate, copper nitrate, copper II carbonate dihydroxide, copper sulfate, titanium III sulfate, magnesium nitrate, cerium (III)

in the context of claim 30 and. Nothing in Bures would have anticipated using any of these salts in an aqueous solution followed by a weak oxidizing aqueous solution. Bures' metal has to be used in a caustic oxidizer solution.

Claim 8 adds to claim 30 that the metal salt is selected from the group consisting of molybdenum (VI) oxide, zinc sulfate, copper (II) chloride, nickel perchlorate, nickel sulfate, copper (II) perchlorate, tin (II) sulfate, tin (I) chloride, chromium (III) sulfate, aluminum sulfate, cerium (III) perchlorate, zinc perchlorate, titanium hydride, chromium (III) perchlorate, zinc powder, manganese (II) chloride, aluminum chloride, titanium (IV) chloride, silver chloride, and titanium (II) sulfate, and combinations. . Nothing in Bures would have anticipated using any of these salts in an aqueous solution followed by a weak oxidizing aqueous solution. Bures' metal has to be used in a caustic oxidizer solution.

Claim 9 adds to claim 30 that the oxygen source is a peroxide. Bures uses a strong caustic and uses it simultaneously.

Claim 10 adds to claim 30 that the oxygen source is selected from the group consisting of hydrogen peroxide, sodium peroxide, zinc peroxide, calcium peroxide, barium peroxide, and lithium peroxide, and combinations. . Bures uses a strong caustic and uses it simultaneously.

Claim 20 adds to claim 2 the step of drying the substrate between the two steps. Bures does not dry between two steps

Claim 21 adds to claim 2 that the preparations are aqueous solutions and are applied between the freezing point and boiling point of the solutions under the process conditions of the method. Bures does not apply a second aqueous solution as claimed.

Claim 22 adds to claim 2 applying a sealing coat over the substrate surface. Bures does not add a sealing coat.

Claim 31 adds to claim 30 that the metal salt preparation and/or the oxygen source preparation further comprises an additive selected from the group consisting of thickener, alcohol, emulsifier, coloring agent, pigment, dye, bleach, sealer, finishing agent, tint, acrylic

finish, latex finish, polyurethane, alcohol, gelling agent, tabletting agent, surfactant, buffer, citric acid, tannic acid, acetic acid, other acid, color, salt, stabilizer, antimicrobial, antifungal, insecticide, insect repellent, ultraviolet protectant, and fire retardant, and combinations. Bures does not have separate aqueous solutions that have these components.

Claim 32 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.001% and about 20% (w/v) metal salt. Bures does not have that concentration in aqueous solution.

Claim 33 adds to claim 30 that the oxygen source preparation is an aqueous solution comprising between about 0.1% and about 50% (w/v) peroxide. . Bures does not have that concentration in aqueous solution.

Claim 34 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.025 % and about 8% (w/v) metal salt. . Bures does not have that concentration in aqueous solution.

Claim 36 adds to claim 30 that the preparations are concentrates suitable for dilution by a user. . Bures does not have that concentration suitable for dilution.

In separately rejecting the same claims as obvious under 103(a), the examiner has admitted and correctly so that Bures does not anticipate Claims 2, 30, or their dependent claims 3-10, 20-22 and 30-36. The office action is silent as to the basis for the rejection of each of the dependent claims since there is no showing as to where in Bures there is anticipation for each of the claimed features. See *In re Oetiker*, *supra*. Besides, the Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any anticipation rejection of the claimed features.

The same unobvious distinctions over the prior art Bures as stated in the paragraphs immediately above apply to the erroneous 103 rejection.

Bures merely coats wood with an oxidizing agent to lighten the wood. Bures uses ammonium persulfate, and cupric sulfate as accelerants in concentrated hydrochloric acid with a

methylated spirit, and an organic solvent teepol. In some cases Bures treats some woods with an A solution to produce a darkening effect, and some woods with a B solution to produce a lightening effect. Whatever the result of Bures, it is clear that Bures does not teach the present invention as specifically pointed out in the claims.

Since the cited reference does not disclose all the elements of the present invention, the reference cannot anticipate the present invention. Lacking an element of the claims, the reference cannot anticipate the invention. Carmen Indus., Inc. v. Wahl, 220 USPQ 481, 485 (Fed. Cir. 1983).

Lacking the claimed elements, the references cannot anticipate the present claims.

The present claims are patentable under 35 U.S.C. 103(a).

In considering the patentability of the present invention, it is requested that the Board consider the invention as a whole, consider the scope and content of the prior art as a whole, consider the differences between the claims at issue and the prior art, and consider the level of ordinary skill in the art to which the invention pertains at the time the invention was made.

Graham v. John Deere Co., 148 USPQ 459, 467 (1966).

THE INVENTION AS A WHOLE

The invention considered as a whole is best described by the appended claims.

PRIOR ART AS A WHOLE

The prior art to which the invention pertains is typified by the wood -related references of record.

DIFFERENCES BETWEEN THE INVENTION AND THE PRIOR ART

Each of the present claims defines unique features and each is individually patentable

over the prior art.

The test in reviewing rejections under 35 U.S.C. 103 in which the examiner has relied on teachings of several references, is whether references, viewed individually and collectively, would have suggested claimed invention to a person possessing ordinary skill in the art, and citing references which merely indicate that isolated elements and/or features recited in the claims are known is not a sufficient basis for concluding that combination of the claimed elements would have been obvious. Ex parte Hiyamizu, 10 USPQ2d 1393-1395 (Board of Patent Appeals and Inter., 1988); In re Kaslow, 217 USPQ 1089 (Fed. Cir. 1983); In re Deminski, 230 USPQ 313 (Fed. Cir. 1986).

Claims 2-10, 20-22, and 30-36 are patentable under 35 U.S.C. 103(a) over Dombay.

Regarding the defendant claims, the Examiner makes a blanket statement, on page 6 of Paper No. 33, that claims 2-10, 20-22, and 30-36 are “unpatentable over” Dombay. However, the Examiner has not provided any basis for the features in each of the identified claims to enable Applicant to adequately rebut the rejections. The burden lies on the Examiner to make a *prima facie* case for rejection of the identified claims and the Examiner has failed in this case.

Attention is kindly drawn to the Federal Circuit's dictum:

The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The 'prima facie case' notion ... was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the *prima facie* case) to patentability, and give the applicant fair opportunity to meet those objections ... the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness.
In re Oetiker, 25 USPQ2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring); see In re Piasecki, 233, USPQ 785, 788 (Fed. Cir. 1984) (emphasis added).

Claim 2 defines a method for treating and coloring a wood substrate with the kit of claim 30 comprising the steps of contacting a substrate with a formulation comprising a metal salt, and allowing an effective amount of the formulation to penetrate the substrate, and sequentially but

without regard to order; contacting the substrate with a formulation comprising an oxygen source, and allowing an effective amount of the formulation to penetrate the substrate; such that the two formulations react with each other in contact with the substrate to impart a stable change to the characteristics of the substrate.

The Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references.

Dombay merely coats wood with an oxidizing agent to lighten the wood. Dombay uses ammonium persulfate, and cupric sulfate as accelerants in concentrated hydrochloric acid with a methylated spirit, and an organic solvent. In some cases Dombay treats some woods with an A solution to produce a darkening effect, and some woods with a B solution to produce a lightening effect. Whatever the result of Dombay, it is clear that Dombay does not teach the present invention as specifically pointed out in the claims.

Dombay relates to wood bleaching in which the reference mandates the use of methylated spirit, which the present invention particularly avoids. The present specification describes the ill-effects of prior art procedures that mandate alcohol based substances which harm the environment. In fact, Example 4, relied on by the Examiner, provides for 150 ml of methylated spirit. Potassium permanganate and cupric sulphate are used as bleaching accelerants in the one-step Dombay bleaching process. Acetic acid is used to stop the bleaching.

Nothing in the entire reference teaches or suggests the unique kit that has an aqueous solution of a mineral salt and an aqueous solution of a peroxide, with the mineral salt solution being applied prior to the peroxide solution and the in situ reaction of the applied substances with the substrate.

Claims 3-7, 9-10, and 30-34, and 36 have been described earlier.

Claim 30 describes a kit for treating and coloring a wood substrate, comprising a first component aqueous solution of oxidizable metal salt preparation for a first application to the wood substrate, and a second component aqueous solution of oxygen source preparation for a

sequential application to the wood substrate, the aqueous solution preparations being adapted to sequentially penetrate the wood substrate when sequentially applied, and both aqueous solution preparations when applied sequentially in effective amounts, being adapted to react with each other within the wood substrate to impart physical color characteristic to the wood substrate.

Dombay merely coats wood with an oxidizing agent to lighten the wood. Dombay uses ammonium persulfate, and cupric sulfate as accelerants in concentrated hydrochloric acid with a methylated spirit, and an organic solvent. In some cases Dombay treats some woods with an A solution to produce a darkening effect, and some woods with a B solution to produce a lightening effect. Whatever the result of Dombay, it is clear that Dombay does not teach the present invention as specifically pointed out in the claims.

Dombay relates to wood bleaching in which the reference mandates the use of methylated spirit, which the present invention particularly avoids. The present specification describes the ill-effects of prior art procedures that mandate alcohol based substances which harm the environment. In fact, Example 4, relied on by the Examiner, provides for 150 ml of methylated spirit. Potassium permanganate and cupric sulphate are used as bleaching accelerants in the one-step Dombay bleaching process. Acetic acid is used to stop the bleaching.

Nothing in the entire reference teaches or suggests the unique kit that has an aqueous solution of a mineral salt and an aqueous solution of a peroxide, with the mineral salt solution being applied prior to the peroxide solution and the in situ reaction of the applied substances with the substrate.

Claim 3 adds to claim 30 that the oxygen source is a peroxide and both formulations are aqueous solutions. Dombay never mentions two solutions (three) and never mentions that both solutions are aqueous. Focal in Dombay is bleaching with strong caustic agents, which is not found herein, in claim 3, 30 or any claim.

Claim 4 adds to claim 30 that the metal salt is selected from the group consisting of salts of iron, silver, zinc, cerium, copper, magnesium, molybdenum, nickel, tin, chromium, aluminum,

barium, calcium, sodium, potassium, and titanium, and combinations. Claim 4 must be read in the context of claim 30. Nothing in Dombay would have anticipated using any of these salts. Dombay's metal has to be used in a strong caustic solution for wood. There is no subsequent oxidizing. Dombay always finishes with a glacial acid.

Claim 5 adds to claim 30 that the metal salt is selected from the group consisting of salts of aluminum, antimony, beryllium, bismuth, cadmium, chromium, cobalt, copper, gold, iridium, lead, magnesium, manganese, mercury, molybdenum, nickel, niobium, osmium, platinum, plutonium, potassium, rhodium, selenium, silicon, silver, sodium, tantalum, thorium, tin, titanium, tungsten, uranium, vanadium, and zinc, and combinations. Claim 5 must be read by, law, in the context of claim 30. Nothing in Dombay would have anticipated using any of these salts on wood. Dombay's metal has to be used with a strong caustic oxidizer at the same time

Claim 6 adds to claim 30 that the metal salt is selected from the group consisting of sulfates, chlorides, perchlorates, acetates, nitrates, permanganates, thiosulfates, and oxides, and combinations. Nothing in Dombay would have suggested using those metal salts in the steps of the kit.

Claim 7 adds to claim 30 that the metal salt is selected from the group consisting of silver sulfate, silver perchlorate, silver nitrate, silver sulfate, iron (II) chloride, zinc perchlorate, iron (II) perchlorate, iron (II) sulfate, copper acetate, sodium thiosulfate, magnesium thiosulfate, potassium thiosulfate, potassium nitrate, potassium permanganate, copper nitrate, copper II carbonate dihydroxide, copper sulfate, titanium III sulfate, magnesium nitrate, cerium (III) in the context of claim 30 and. Nothing in Dombay would have anticipated using any of these salts in an aqueous solution followed by a weak oxidizing aqueous solution. Dombay's metal has to be used in a caustic oxidizer solution.

Claim 8 adds to claim 30 that the metal salt is selected from the group consisting of molybdenum (VI) oxide, zinc sulfate, copper (II) chloride, nickel perchlorate, nickel sulfate,

copper (II) perchlorate, tin (II) sulfate, tin (I) chloride, chromium (III) sulfate, aluminum sulfate, cerium (III) perchlorate, zinc perchlorate, titanium hydride, chromium (III) perchlorate, zinc powder, manganese (II) chloride, aluminum chloride, titanium (IV) chloride, silver chloride, and titanium (II) sulfate, and combinations. . Nothing in Dombay would have anticipated using any of these salts in an aqueous solution followed by a weak oxidizing aqueous solution. Dombay's metal has to be used in a caustic oxidizer solution.

Claim 9 adds to claim 30 that the oxygen source is a peroxide. Dombay uses a strong caustic and uses it simultaneously.

Claim 10 adds to claim 30 that the oxygen source is selected from the group consisting of hydrogen peroxide, sodium peroxide, zinc peroxide, calcium peroxide, barium peroxide, and lithium peroxide, and combinations. . Dombay uses a strong caustic and uses it simultaneously.

Claim 20 adds to claim 2 the step of drying the substrate between the two steps. Dombay does not have drying.

Claim 21 adds to claim 2 that the preparations are aqueous solutions and are applied between the freezing point and boiling point of the solutions under the process conditions of the method. Dombay uses organic solvent and in a single coloring step.

Claim 22 adds to claim 2 applying a sealing coat over the substrate surface. Dombay does not apply a seal coat.

Claim 31 adds to claim 30 that the metal salt preparation and/or the oxygen source preparation further comprises an additive selected from the group consisting of thickener, alcohol, emulsifier, coloring agent, pigment, dye, bleach, sealer, finishing agent, tint, acrylic finish, latex finish, polyurethane, alcohol, gelling agent, tabletting agent, surfactant, buffer, citric acid, tannic acid, acetic acid, other acid, color, salt, stabilizer, antimicrobial, antifungal, insecticide, insect repellent, ultraviolet protectant, and fire retardant, and combinations. Dombay does not have separate aqueous solutions that have these components.

Claim 32 adds to claim 30 that the metal salt preparation is an aqueous solution

comprising between about 0.001% and about 20% (w/v) metal salt. Dombay does not have that concentration in aqueous solution.

Claim 33 adds to claim 30 that the oxygen source preparation is an aqueous solution comprising between about 0.1% and about 50% (w/v) peroxide. . Dombay does not have that concentration in aqueous solution.

Claim 34 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.025 % and about 8% (w/v) metal salt. . Dombay does not have that concentration in aqueous solution.

Claim 36 adds to claim 30 that the preparations are concentrates suitable for dilution by a user. . Dombay does not have that concentration suitable for dilution.

In separately rejecting the same claims as obvious under 103(a), the examiner has admitted and correctly so that Dombay does not anticipate Claims 2, 30, or their dependent claims 3-10, 20-22 and 30-36. The office action is silent as to the basis for the rejection of each of the dependent claims since there is no showing as to where in Dombay there is anticipation for each of the claimed features. See *In re Oetiker*, supra. Besides, the Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any anticipation rejection of the claimed features.

The same unobvious distinctions over the prior art Dombay as stated in the paragraphs above apply to the erroneous 103 rejection.

Claim 35 was not rejected on Dombay 102

Dombay merely coats wood with an oxidizing agent to lighten the wood. Dombay uses ammonium persulfate, and cupric sulfate as accelerants in concentrated hydrochloric acid with a methylated spirit, and an organic solvent teepol. In some cases Dombay treats some woods with an A solution to produce a darkening effect, and some woods with a B solution to produce a lightening effect. Whatever the result of Dombay, it is clear that Dombay does not teach the present invention as specifically pointed out in the claims.

Dombay relates to wood bleaching in which the reference mandates the use of methylated spirit, which the present invention particularly avoids. The present specification describes the ill-effects of prior art procedures that mandate alcohol based substances which harm the environment. In fact, Example 4, relied on by the Examiner, provides for 150 ml of methylated spirit. Potassium permanganate and cupric sulphate are used as bleaching accelerants in the one-step Dombay bleaching process. Acetic acid is used to stop the bleaching.

Nothing in the entire reference teaches or suggests the unique kit that has an aqueous solution of a mineral salt and an aqueous solution of a peroxide, with the mineral salt solution being applied prior to the peroxide solution and the in situ reaction of the applied substances with the substrate.

Claims 2-8, 9-10, 20-22, and 30-36, are patentable under 35 U.S.C. 103(a) over Bures.

Regarding the defendant claims, the Examiner makes a blanket statement, on page 7 of Paper No. 33, that claims 2-8, 9-10, 20-22, and 30-36 “would have been obvious” from Bures to “formulate a kit which comprises a first composition which contains water and a metal salt in the claimed amounts, and a second composition which contains water and hydrogen peroxide in the claimed amounts, wherein each composition is sequentially applied to wood to color the wood, because such kits fall within the scope of those as taught by Bures.” However, the Examiner has not provided any basis for the features in each of the identified claims to enable Applicant to adequately rebut the rejections. The burden lies on the Examiner to make a *prima facie* case for rejection of the identified claims and the Examiner has failed in this case.

Attention is kindly drawn to the Federal Circuit's dictum:

The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The 'prima facie case' notion ... was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the *prima facie* case) to patentability, and give the applicant fair opportunity to meet those objections ... the concept serves

to level the playing field and reduces the likelihood of administrative arbitrariness. In re Oetiker, 25 USPQ2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring); see In re Piasecki, 233, USPQ 785, 788 (Fed. Cir. 1984) (emphasis added).

The office action is silent as to the basis for the rejection of each of the dependent claims since there is no showing as to where in Bures there is basis for each of the claimed features. See In re Oetiker, *supra*. Besides, the Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any obviousness rejection of the claimed features.

As previously pointed out, Bures merely coats wood with an oxidizing agent to lighten the wood. Bures uses ammonium persulfate, and cupric sulfate as accelerants in concentrated hydrochloric acid with a methylated spirit, and an organic solvent teepol. Bures treats some woods with an A solution to produce a darkening effect, and some woods with a B solution to produce a lightening effect. It is clear that Bures does not teach the present invention as specifically pointed out in the claims.

Bures relates to wood bleaching in which the reference mandates the use of methylated spirit, which the present invention particularly avoids. The present specification describes the ill-effects of prior art procedures that mandate alcohol based substances which harm the environment. In fact, Example 4, relied on by the Examiner, provides for 150 ml of methylated spirit. Potassium permanganate and cupric sulphate are used as bleaching accelerants in the one-step Bures bleaching process. Acetic acid is used to stop the bleaching.

That [the prior art] might incorporate elements which could be used in appellants' system does not render appellants' claims obvious when there is no suggestion of using these elements in substantially the same manner as appellants use them. In re Donovan, 184 USPQ 414, 421 (CCPA, 1975).

Claims 2-10, 20-22, 30-36 are patentable under 35 U.S.C. 103(a) over Bures.

Regarding the defendant claims, the Examiner makes a blanket statement, on page 8 of

Paper No. 33, that claims 2-10, 20-22, 30-36 "would have been obvious" from Bures to "add a claimed oxygen sources and metal salts to Bures aqueous compositions in the claimed amounts because Bures teaches such amounts as suitable for the patentee's wood coloring compositions." However, the Examiner has not provided any basis for the features in each of the identified claims to enable Applicant to adequately rebut the rejections. The burden lies on the Examiner to make a *prima facie* case for rejection of the identified claims and the Examiner has failed in this case. The above distinctions and arguments about distinctions of each claim from Bures are repeated and incorporated herein by reference. There is no way in which those distinctions could have been obvious from Bures, because Bures leads in a completely different direction, first using (A) manganese chloride, ferric chloride and hydrogen peroxide, then using (B) an a complex multiple component organic and inorganic solution, and then using a silver nitrate, cobalt chloride, NH₄OH and THF application in three separate steps.

Attention is kindly drawn to the Federal Circuit's dictum:

The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The 'prima facie case' notion ... was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the *prima facie* case) to patentability, and give the applicant fair opportunity to meet those objections ... the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness.

In re Oetiker, 25 USPQ2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring); *see In re Piasecki*, 233, USPQ 785, 788 (Fed. Cir. 1984) (emphasis added).

Claims 2-10, 20-22, and 30-36 have been described earlier.

The office action is silent as to the basis for the rejection of each of the dependent claims since there is no showing as to where in Bures there is basis for each of the claimed features. See *In re Oetiker*, *supra*. Besides, the Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any obviousness rejection of the claimed features.

Bures has nothing to do with the aqueous solution preparations being adapted to

sequentially penetrate the wood substrate when sequentially applied, and both aqueous solution preparations when applied sequentially in effective amounts, being adapted to react with each other within the wood substrate to impart physical color characteristic to the wood substrate.

Claim 2 defines a method for treating and coloring a wood substrate with the kit of claim 30 comprising the steps of contacting a substrate with a formulation comprising a metal salt, and allowing an effective amount of the formulation to penetrate the substrate, and sequentially but without regard to order; contacting the substrate with a formulation comprising an oxygen source, and allowing an effective amount of the formulation to penetrate the substrate; such that the two formulations react with each other in contact with the substrate to impart a stable change to the characteristics of the substrate.

The Examiner concedes in paper # 36 that applicant has pointed out the differences between the claims and the references, which suffices to overcome any anticipation rejection of the claimed features.

Bures coats wood with three complex inorganic, then organic and inorganic, then inorganic with an organic polar solvent.. Bures uses in his second step at least one hydroxyaromatic, aminoaromatic or heterocyclic compound with 3-77 atoms in a mixed inorganic or organic solvent, not the thing that the present invention as claimed is made of. In all cases Bures treats woods with A, B, and C solutions to produce distinct effects. Whatever the result of Bures, it is clear that Bures does not teach the present invention as specifically pointed out in the claims.

Bures relates to wood treatment in three steps in which the reference mandates the use of organics an solvents, which the present invention particularly avoids. The present specification describes the ill-effects of prior art procedures that mandate organic based substances which harm the environment. In fact, the parts relied on by the Examiner, provide for organic materials and solvents. Nothing in the entire reference teaches or suggests the unique kit that has an aqueous solution of a mineral salt and an aqueous solution of a peroxide, with the mineral salt

solution being applied prior to the peroxide solution and the in situ reaction of the applied substances with the substrate.

Claims 3-7, 9-10, and 30-34, and 36 have been described earlier.

Claim 30 describes a kit for treating and coloring a wood substrate, comprising a first component aqueous solution of oxidizable metal salt preparation for a first application to the wood substrate, and a second component aqueous solution of oxygen source preparation for a sequential application to the wood substrate, the aqueous solution preparations being adapted to sequentially penetrate the wood substrate when sequentially applied, and both aqueous solution preparations when applied sequentially in effective amounts, being adapted to react with each other within the wood substrate to impart physical color characteristic to the wood substrate.

Bures coats wood with three complex inorganic, then organic and inorganic, then inorganic with an organic polar solvent.. Bures uses in his second step at least one hydroxyaromatic, aminoaromatic or heterocyclic compound with 3-77 atoms in a mixed inorganic or organic solvent, not the thing that the present invention as claimed is made of. In all cases Bures treats woods with A, B, and C solutions to produce distinct effects. Whatever the result of Bures, it is clear that Bures does not teach the present invention as specifically pointed out in the claims.

Bures relates to wood treatment in three steps in which the reference mandates the use of organics as solvents, which the present invention particularly avoids. The present specification describes the ill-effects of prior art procedures that mandate organic based substances which harm the environment. In fact, the parts relied on by the Examiner, provide for organic materials and solvents.

Nothing in the entire reference teaches or suggests the unique kit that has an aqueous solution of a mineral salt and an aqueous solution of a peroxide, with the mineral salt solution being applied prior to the peroxide solution and the in situ reaction of the applied substances with the substrate.

Claim 3 adds to claim 30 that the oxygen source is a peroxide and both formulations are aqueous solutions. Bures never mentions two solutions (but three) and never mentions that both solutions are aqueous. Focal in Bures is using organic agents, which is not found herein, in claim 3, 30 or any claim.

Claim 4 adds to claim 30 that the metal salt is selected from the group consisting of salts of iron, silver, zinc, cerium, copper, magnesium, molybdenum, nickel, tin, chromium, aluminum, barium, calcium, sodium, potassium, and titanium, and combinations. Claim 4 must be read by law in the context of claim 30. Nothing in Bures would have anticipated using any of these salts. Bures' metal has to be used in an organic solution for wood. There is no subsequent oxidizing. Bures always finishes with silver nitrate and other components in solvents which are not water.

Claim 5 adds to claim 30 that the metal salt is selected from the group consisting of salts of aluminum, antimony, beryllium, bismuth, cadmium, chromium, cobalt, copper, gold, iridium, lead, magnesium, manganese, mercury, molybdenum, nickel, niobium, osmium, platinum, plutonium, potassium, rhodium, selenium, silicon, silver, sodium, tantalum, thorium, tin, titanium, tungsten, uranium, vanadium, and zinc, and combinations. Claim 5 must be read by law, in the context of claim 30. Nothing in Bures would have anticipated using any of these salts on wood. Bures' metal has to be used with a strong caustic oxidizer at the same time

Claim 6 adds to claim 30 that the metal salt is selected from the group consisting of sulfates, chlorides, perchlorates, acetates, nitrates, permanganates, thiosulfates, and oxides, and combinations. Nothing in Bures would have suggested using those metal salts in the steps of the kit.

Claim 7 adds to claim 30 that the metal salt is selected from the group consisting of silver sulfate, silver perchlorate, silver nitrate, silver sulfate, iron (II) chloride, zinc perchlorate, iron (II)

perchlorate, iron (II) sulfate, copper acetate, sodium thiosulfate, magnesium thiosulfate, potassium thiosulfate, potassium nitrate, potassium permanganate, copper nitrate, copper II carbonate dihydroxide, copper sulfate, titanium III sulfate, magnesium nitrate, cerium (III) in the context of claim 30 and. Nothing in Bures would have anticipated using any of these salts in an aqueous solution followed by a weak oxidizing aqueous solution. Bures' metal has to be used in a caustic oxidizer solution.

Claim 8 adds to claim 30 that the metal salt is selected from the group consisting of molybdenum (VI) oxide, zinc sulfate, copper (II) chloride, nickel perchlorate, nickel sulfate, copper (II) perchlorate, tin (II) sulfate, tin (I) chloride, chromium (III) sulfate, aluminum sulfate, cerium (III) perchlorate, zinc perchlorate, titanium hydride, chromium (III) perchlorate, zinc powder, manganese (II) chloride, aluminum chloride, titanium (IV) chloride, silver chloride, and titanium (II) sulfate, and combinations. Nothing in Bures would have anticipated using any of these salts in an aqueous solution followed by a weak oxidizing aqueous solution. Bures' metal has to be used in a caustic oxidizer solution.

Claim 9 adds to claim 30 that the oxygen source is a peroxide. Bures uses a strong caustic and uses it simultaneously.

Claim 10 adds to claim 30 that the oxygen source is selected from the group consisting of hydrogen peroxide, sodium peroxide, zinc peroxide, calcium peroxide, barium peroxide, and lithium peroxide, and combinations. Bures uses a strong caustic and uses it simultaneously.

Claim 20 adds to claim 2 the step of drying the substrate between the two steps.

Claim 21 adds to claim 2 that the preparations are aqueous solutions and are applied between the freezing point and boiling point of the solutions under the process conditions of the method.

Claim 22 adds to claim 2 applying a sealing coat over the substrate surface.

Claim 31 adds to claim 30 that the metal salt preparation and/or the oxygen source preparation further comprises an additive selected from the group consisting of thickener,

alcohol, emulsifier, coloring agent, pigment, dye, bleach, sealer, finishing agent, tint, acrylic finish, latex finish, polyurethane, alcohol, gelling agent, tableting agent, surfactant, buffer, citric acid, tannic acid, acetic acid, other acid, color, salt, stabilizer, antimicrobial, antifungal, insecticide, insect repellent, ultraviolet protectant, and fire retardant, and combinations. Bures does not have separate aqueous solutions that have these components.

Claim 32 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.001% and about 20% (w/v) metal salt. Bures does not have that concentration in aqueous solution.

Claim 33 adds to claim 30 that the oxygen source preparation is an aqueous solution comprising between about 0.1% and about 50% (w/v) peroxide. . Bures does not have that concentration in aqueous solution.

Claim 34 adds to claim 30 that the metal salt preparation is an aqueous solution comprising between about 0.025 % and about 8% (w/v) metal salt. . Bures does not have that concentration in aqueous solution.

Claim 36 adds to claim 30 that the preparations are concentrates suitable for dilution by a user. Bures does not have that concentration suitable for dilution.

As previously stated, Bures relates to a three step process of treating woods with metal salts, oxidants, dyes and permeation agents. However, the reference does not teach nor suggest a kit for treating and coloring a wood substrate, comprising a first component aqueous solution of oxidizable metal salt preparation for a first application to the wood substrate, and a second component aqueous solution of oxygen source preparation for a sequential application to the wood substrate.

Like each of the other references, Bures too expressly intends to impart a stabilized color to dark and medium colored woods by utilizing hypochlorite, persulphate and peroxide compounds. The use of mineral salt ions specifically Iron, Zinc or Silver is not employed or mentioned. In fact, the reference relies on the exclusive use of hypochlorite, persulphate and

peroxide compounds to bleach wood.

Contrastingly, the claimed process is expressly concerned with darkening the color of the top-most layer of wood cellulose and other substrates by transitioning water soluble mineral ions into oxides within the top-most layer of the substrate. The process bonds the transitioned minerals to the cellulose fibers and creates a more or less stable color which may slightly lighten or darken over time.

In fact, none of the references teach or suggest the claimed two step in situ treatment with the unique kit defined in the present claims. The present invention uniquely provides treatment of all substrates including light colored wood and is exclusively a two part process.

"To establish inherency, the extrinsic evidence 'must make it clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'" In re Robertson, 48 USPQ2d 1949, 1951 (Fed. Cir. 1999) quoting from Continental Can Co. v. Monsanto Co., 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *Id.* 20 USPQ2d at 1749.

The invention provides an aqueous solution of a mineral salt thereby providing water soluble ions of mineral salts which are applied to a suitable substrate and allowed to briefly dry. In a second step the water soluble mineral salts transition into insoluble mineral oxide compounds which form inside and around the cellulose fibers. The agents used to transition the mineral salt ions into insoluble oxide compounds include dilute hydrogen peroxide solutions, to prevent harm to the environment, and other dilute strength agents such as sodium peroxide and sodium hydroxide. Again, stronger solutions pose a greater threat to the environment and user.

The present process is expressly useful in enhancing the natural nuances of a particular piece of wood, thereby giving it a more natural color than a conventional stain. The process enhances the variations of color within a given species of wood, therefore differing from the prior

art, all of which aim to provide bleaching for more uniform color of wood or of marble, which is not relevant.

The commercial viability of the present process relies on enhancing the naturally occurring qualities of a specific wood particularly lighter colored species such a Pine, Larch, Poplar, Alder, Maple, Fur, Ash, Bamboo (a grass), Hackberry, Black Willow, Oak, Birch, and others. All of those are considered colored woods, many of which are rapidly grown, sustainable harvestable species.

"The inherency of an advantage and its obviousness are entirely different questions. That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown. In re Spormann and Heinke, 150 USPQ 449, 452 (CCPA 1966). "... if the Patent Office wishes to rely on what 'Those familiar with [invention] would know,' it must produce some reference showing what such knowledge consists of." Id.

The light fastness is considerably better than prior art dyes (specifically aniline dyes) used to color wood and other substrates. The primary commercial use for the invention is to impart a range of colors (earth tones primarily) to light and medium colored woods and to use as an alternative to conventional staining products which may contain hazardous VOC's or other hazardous chemical compounds. Also, conventional dyes and colorants for wood does not enhance the natural qualities of the wood or other substrate as does the Auger Mineral Stain Process.

Minerals used in the present invention expressly create color within the wood or substrate. Minerals utilized alone or in combination are: Iron, Zinc and Silver salts, specifically Iron I Chloride, Sulfate and Perchlorate; Zinc Perchlorate, Silver Perchlorate and Silver Nitrate, among others.

No potassium persulphate, sodium persulfate, ammonium persulfate, sodium carbonate, acetic acid, glacial acetic acid, potassium permanganate, cupric ions or ammonia are used in the claimed process. Thus, the claimed invention always imparts the substrate with an alkaline pH.

See In re Meng, 181 USPQ 94, 97 (CCPA 1974), wherein the Court held: "Of course the invention seems simple, after the fact. But simplicity, particularly in an old and crowded art, may argue for rather than against patentability. In re Sporck, 133 USPQ 360 (CCPA 1962). Progress in the crowded arts, usually made in small increments, is as important as it is in arts at the pioneer stage. In re Hummer, 113 USPQ 66 (CCPA 1957). The Constitution envisages and seeks progress in the 'useful arts,' not just those more esoteric or scientific."

Proper surface preparation consistent with any preparatory procedure used to prepare wood for finishing allows for adequate penetration of the mineral salt solution. Additionally an anionic surfactant may be added to the mineral salt solution to aid in the penetration of the mineral salt solution, this is especially useful for industrial and manufacturing situations where dust, grease and other debris may be present and form surface tension prohibiting the mineral salt solution (A) from penetrating the substrate.

"The mere fact that a certain thing may result from a given set of circumstances is not sufficient [to establish inherency]." In re Rijckaert, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993), quoting from In re Oelrich, 212 USPQ 323, 326 (CCPA 1981). "Such a retrospective view of inherency is not a substitute for some teaching or suggestion supporting an obviousness rejection." Rijckaert, *id.*, quoting from In re Newell, 13 USPQ2d 1248, 1250 (Fed. Cir. 1989).

Contrary to the prior art, and according to the invention, the solution is completely dry prior to the application of the (catalyst) solution. Also, contrary to the prior art, the present invention transitions the European Oak instantly through its process to the yellow color the prior art is attempting to avoid. By producing the yellow or "aged" color Auger allows woodworkers to match the tone of "aged" or "antique" wood thereby giving woodworkers the opportunity to make reproductions, restore or color wood articles in a manner consistent with the color expected from wood which has acquired an "aged" or "antique" appearance.

The Board, in Ex parte Levengood, 28 USPQ2d 1300, 1301 (Board of App. and Inter. 1993), observed:

"The only suggestion for the examiner's combination of the isolated teachings of the

applied references improperly stems from appellant's disclosure and not from the applied prior art. In re Ehrreich, 200 USPQ 504 (CCPA 1979). At best, the examiner's comments regarding obviousness amount to an assertion that one of ordinary skill in the art would have been able to arrive at the appellant's invention because he had the necessary skills to carry out the requisite... steps. This is an inappropriate standard for obviousness."

The above is true for the present case.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious any of the claims.

LEVEL OF ORDINARY SKILL IN THE ART

A person having ordinary skill in the art is an artisan being taught the wood-related reference teachings.

SUMMARY

Claims 1 and 31 are patentable under 35 U.S.C. 112, second paragraph.

Each of the present claims is patentable under 35 U.S.C. 102(b) over the prior art of record.

When considering the present invention as a whole and the prior art to which the invention pertains as a whole, when considering the differences between the present invention and the prior art, and when considering the level of ordinary skill in the art to which the invention pertains, it is clear that the invention would not have been obvious under 35 U.S.C. 103(a) to a person having ordinary skill in the art at the time the invention was made.

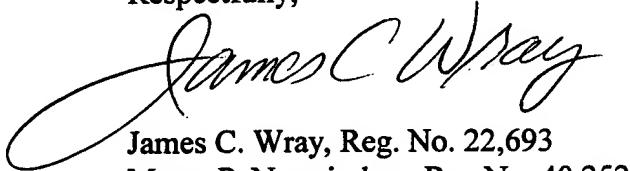
The Examiner has failed to meet the burden required by MPEP 2183. Under 2183, after concluding, with proper evidence, that the claimed limitation is met by prior art element, the examiner must show that the prior art element is equivalent and must also demonstrate why it would have been obvious to one of ordinary skill in the art at the time of the invention to

substitute applicant's described structure, material, or acts for that described in the prior art reference. This is what is required to shift the burden to applicant to show that the element shown in the prior art is not an equivalent of the structure, material or acts disclosed in the application. MPEP 2183. The Examiner in this case has not met the burden required by MPEP 2183.

CONCLUSION

Reversal of the Examiner and allowance of all the claims are respectfully requested.

Respectfully,



James C. Wray, Reg. No. 22,693
Meera P. Narasimhan, Reg. No. 40,252
1493 Chain Bridge Road, Suite 300
McLean, Virginia 22101
Tel: (703) 442-4800
Fax: (703) 448-7397

May 7, 2002

APPENDIX

APPEALED CLAIMS:

1. A kit for imparting a pre-determined color to a solid wood substrate, comprising:

(a) an aqueous solution of a first component consisting of a mineral salt and water as a first application on the solid wood substrate, and

(b) a second component comprising an aqueous solution of a peroxide as a sequential application on the solid wood substrate,

effective amounts of the mineral salt and the peroxide solutions occurring as sequential applications on the substrate and colored layer on the substrate formed by the sequential applications reacting with each other in the presence of the substrate thereby imparting the color to the substrate.

2. A method for coloring a wood substrate with the kit of claim 30 comprising the steps of:

(a) contacting the wood substrate with the first component aqueous solution preparation comprising the oxidizable metal salt, and allowing an effective amount of the first component aqueous solution preparation to penetrate the wood substrate, and sequentially but without regard to order,

(b) contacting the wood substrate with the second component aqueous solution preparation comprising an oxygen source, and allowing an effective amount of the second component aqueous solution preparation to penetrate the wood substrate,

(c) reacting in situ within the wood substrate the first and the second component aqueous solution preparations with each other in contact with the wood substrate, and

(d) imparting a stable color change to the wood substrate.

3. The kit of claim 30, wherein the oxygen source is a peroxide and both preparations consisting essentially of aqueous solutions.

4. The kit of claim 30, wherein the metal salt is selected from the group consisting of salts of iron, silver, zinc, cerium, copper, magnesium, molybdenum, nickel, tin, chromium, aluminum, barium, calcium, sodium, potassium, and titanium, and combinations thereof.

5. The kit of claim 30, wherein the metal salt is selected from the group consisting of salts of aluminum, antimony, beryllium, bismuth, cadmium, chromium, cobalt, copper, gold, iridium, lead, magnesium, manganese, mercury, molybdenum, nickel, niobium, osmium, platinum, plutonium, potassium, rhodium, selenium, silicon, silver, sodium, tantalum, thorium, tin, titanium, tungsten, uranium, vanadium, and zinc, and combinations thereof.

6. The kit of claim 30, wherein the metal salt is selected from the group consisting of sulfates, chlorides, perchlorates, acetates, nitrates, permanganates, thiosulfates, and oxides, and combinations thereof.

7. The kit of claim 30, wherein the metal salt is selected from the group consisting of silver sulfate, silver perchlorate, silver nitrate, iron (II) chloride, zinc perchlorate, iron (II) perchlorate, iron (II) sulfate, copper acetate, sodium thiosulfate, magnesium thiosulfate, potassium thiosulfate, potassium nitrate, potassium permanganate, copper nitrate, copper II carbonate dihydroxide, copper sulfate, titanium III sulfate, magnesium nitrate, cerium (III) perchlorate, and cerium nitrate, and combinations thereof.

8. The kit of claim 30, wherein the metal salt is selected from the group consisting of molybdenum (VI) oxide, zinc sulfate, copper (II) chloride, nickel perchlorate, nickel sulfate, copper (II) perchlorate, tin (II) sulfate, tin (I) chloride, chromium (III) sulfate, aluminum sulfate, cerium (III) perchlorate, zinc perchlorate, titanium hydride, chromium (III) perchlorate, manganese (II) chloride, aluminum chloride, titanium (IV) chloride, silver chloride, and titanium (II) sulfate, and combinations thereof.

9. The kit of claim 30, wherein the oxygen source is a peroxide.

10. The kit of claim 30, wherein the oxygen source is selected from the group consisting of hydrogen peroxide, sodium peroxide, zinc peroxide, calcium peroxide, barium

peroxide, and lithium peroxide, and combinations thereof.

20. The method of claim 2, further comprising the step of drying the substrate between the two contacting steps.

21. The method of claim 2, wherein the aqueous solutions are applied between the freezing point and boiling point of the solutions under the process conditions of the method.

22. The method of claim 2, further comprising applying a sealing coat over a substrate surface.

30. A kit for coloring a wood substrate, comprising
(a) a first component aqueous solution of oxidizable metal salt preparation for a first application to the wood substrate, and
(b) a second component aqueous solution of oxygen source preparation for a sequential application to the wood substrate,

the aqueous solution preparations being adapted to sequentially penetrate the wood substrate when sequentially applied, and both aqueous solution preparations when applied sequentially in effective amounts, being adapted to react with each other within the wood substrate to impart physical color characteristic to the wood substrate.

31. The kit of claim 30, wherein the metal salt preparation and/or the oxygen source preparation further comprises an additive selected from the group consisting of thickener, emulsifier, coloring agent, pigment, dye, bleach, sealer, finishing agent, tint, acrylic finish, latex finish, polyurethane, alcohol, gelling agent, tabletting agent, surfactant, buffer, citric acid, tannic acid, acetic acid, other acid, color, salt, stabilizer, antimicrobial, antifungal, insecticide, insect repellent, ultraviolet protectant, and fire retardant, and combinations.

32. The kit of claim 30, wherein the metal salt preparation is an aqueous solution comprising between about 0.001% and about 20% (w/v) metal salt.

33. The kit of claim 30, wherein the oxygen source preparation is an aqueous solution comprising between about 0.1% and about 50% (w/v) peroxide.

34. The kit of claim 30, wherein the metal salt preparation is an aqueous solution comprising between about 0.025 % and about 8% (w/v) metal salt.

35. The kit of claim 30, wherein the oxygen source preparation is an aqueous solution comprising between about 0.3% and about 15% peroxide.

36. The kit of claim 30, wherein the preparations are concentrates suitable for dilution by a user.